ECONOMIC STUDY OF THE ANNUAL RENT OF THE WATER COMPANY

Abstract. In the article, the author will try to define and show the possibilities of determining the net annual rent of a large water company with a complex water infrastructure of Voda1A in the Czech Republic, which is owned by municipalities with different shares, and another company owned by a private company called Voda2B, which has a water infrastructure leased for 30 years. It is necessary to work with correct economic indicators and to consider the extremely high inflation rate in 2022. One of the economic indicators the ROE Profitability, which tells us about the ratio between funds that flow from equity. The return on ROA is a monetary indicator that indicates the ratio between the funds that flow from all our assets that we have allocated in some way. Finally, the ROS profitability is a monetary indicator that tells us about the ratio between the funds that flow from all our sales. Given that the calculation used to obtain reliable statistical data of a similar nature, and in parallel sufficient safety coefficients were applied, the yield method also gives reliable data and can be considered and considered as a value corresponding to the market value. The author is inclined to the upper limit of the calculations, which is graphically marked and in the licitation spread.

Keywords: lease of water company, ROE, ROA, ROS, licitation spread.

Problem statement. In the article, I will try to define and show the possibilities of determining the net annual rent of a large water company with a complex water infrastructure, the company called Voda1A in the Czech Republic, which is owned by municipalities with different shares, and another company owned by a private company called Voda2B and has leased the water infrastructure for 30 years.

The Constitution guarantees municipalities the right to own property and to dispose of it. The municipality, like any other owner who, if he owns a thing, takes care of such a thing properly, maintains it and manages it effectively, especially for his own benefit. However, municipalities as a public corporation, i.e., a subject governed by public law, must meet certain specifics that are prescribed by the state and the law when dealing with property. Territorial self-government together with state administration serves to exercise public authority in the state in the form of

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public administration, public authority is the administration of public affairs held in the public interest. Such exercise of public authority is imposed on the public authority by law, specifically in the case of territorial self-government, this power is delegated to it. The municipality is a public corporation. The municipality takes care of the all-round development of its territory and the needs of its citizens; In the performance of its tasks, it also protects the public interest. The obligation of municipalities arises precisely in connection with their status in the form of a public legal entity, i.e., that the management of municipal property must be as transparent, effective, and accessible to the public as possible. It regulates the creation, status, content and functions of the budgets of territorial self-governing units, which are municipalities. It also lays down rules for the management of the funds of local authorities. It also regulates the establishment or establishment of legal entities with the share of territorial self-governing units. The provisions of this Act also govern the management of voluntary associations of municipalities.

Analysis of recent research and publications. In the event that a large common property is managed, the obtained data on specific assets of Voda1A are analyzed and compared, i.e. financial resources, incomes, expenditure on simple reproduction, any resulting rent, determined according to the bidding band, to administer the property for the benefit of all citizens concerned. The aim is for municipalities to have the lowest possible prices for water-related services, including the cost of wastewater disposal at treatment stations. Last but not least, we need to consider the possible dividend profit resulting from the ownership of shares.

The aim of the article is to show how it is possible to determine the lease of large assets to another entity under conditions where there is no large diversion of funds from public sources to private companies, while determining inadequate rents. Voda1A for CZK lease the listed infrastructure for CZK 156 million per year to Voda2B and our goal is to determine whether this amount is correctly determined.

*Picture 1 Water, the foundation of life*

Basic information about the leased property

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2 Law of Czech Republic No. 128/2000 Coll., about municipalities
3 Supreme Court of Czech Republic, ruling No. 28 Cdo 3297/2008 of April 8th, 2009
4 Law Czech Republic No. 250/2000 Coll., on budgetary rules of territorial budgets
Based on 2021 Vodand1A's annual report. The company's goal is regular renewal of assets and the process of continuous services, namely the supply of quality drinking water and wastewater solutions in the spirit of environmental rules, in accordance with the quality environment.

Company Voda1A, it owns the vast majority of the infrastructure, i.e., about 2500 kilometers of water and sewerage pipes, two hundred water management objects, pumping stations, water tanks, 7 wastewater treatment plants, boreholes and wells for pumping water. It leases the listed infrastructure for CZK 156 million a year to Voda2B, which has taken over 170,000 water customers. All the input fresh water is in the hands of the state, which means that fresh water is purchased from the state, in our case from a state-owned enterprise, where 1 m³ of surface water is purchased for about CZK 8. In 2022, after water treatment, supply through distribution pipes and subsequent purification of used water in treatment stations, the final consumer will pay CZK 94.44 per 1 m³ (1,000 liters). The difference of these prices is the margin, the gross profit of the water companies.

Main data of the financial statements of Voda1A

- Assets: CZK 1,496,862,479
- Liabilities: CZK 1,496,862,479
- Fixed assets: CZK 1,446,020,542
- Equity: CZK 1,350,945,701
- Current assets: CZK 50,685,491
- External resources: CZK 135,442,014
- Other assets: CZK 156,445
- Other liabilities: CZK 10,474,763
- Revenue: CZK 154,037,829
- Costs: CZK 143,021,433
- Economic result: CZK 11,016,396

Distribution of profit for 2021 to Voda1A

- Profit after tax: CZK 11,016,396
- Allocation to the reserve fund: CZK 550,820
- Dividend payment: 0 CZK
- Retained earnings: CZK 10,465,576

Voda1A suggested that profits should not be distributed and that the company's funds should be cumulated taking into account the planned investments and costs of maintaining and restoring the water infrastructure and ensuring its sustainable condition and ensuring a sufficient rate of its renewal.

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5 Annual Report of the year 2021, Voda1A.
Calculation of reproduction resources

The company's discretionary funds are insufficient to cover investments and their financing is therefore dependent on the income of 2022. The generated profit must be reinvested in the planned investments and thus ensure the guarantee of their execution. Large projects are partially financed by a loan. Complete internal financing of the planned investments is not realistic with regard to the company's
annual turnover. The company does not achieve the recommended water infrastructure renewal rate of 2% as recommended by the Ministry of Agriculture, so it is necessary to invest the maximum of the company’s resources in the restoration and not to pay the dividends. The Ministry, as the competent body of public water supply and sewerage administration pursuant to Section 25(d) of Act No. 274/2001 Coll., on water supply and sewerage for public use and amending certain acts, is a regulatory and supervisory body of state power. The value of assets (objects and infrastructure) at the replacement purchase price of Voda1A is recorded according to the VÚME database.6

<table>
<thead>
<tr>
<th>Majetek podle skupin pro VÚME společnosti Vodovody a kanalizace Zlín, a.s. (49454961)</th>
<th>Rok</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hodnota uvedeného majetku (objektů) v reprodukční pořizovací ceně v tis. Kč bez DPH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vodovodní řady (přívaděcí řady + rozvodná vodovodní sít’)</td>
<td>4 567 091,708</td>
<td>6 407 509,810</td>
<td></td>
</tr>
<tr>
<td>Stavby pro úpravu vody nebo stavby k jímání vody</td>
<td>1 350 596,312</td>
<td>1 890 634,837</td>
<td></td>
</tr>
<tr>
<td>Vodovod celkem</td>
<td>5 917 688,02</td>
<td>8 298 344 647</td>
<td></td>
</tr>
<tr>
<td>Kanalizační stoky (přívaděcí stoky + stoková sít’)</td>
<td>5 446 385,037</td>
<td>7 910 415,750</td>
<td></td>
</tr>
<tr>
<td>Částiny odpadních vod</td>
<td>1 582 791,280</td>
<td>2 215 807,792</td>
<td></td>
</tr>
<tr>
<td>Kanalizace celkem</td>
<td>7 029 176,317</td>
<td>10 126 323,542</td>
<td></td>
</tr>
<tr>
<td>Celkem</td>
<td>12 946 864,337</td>
<td>18 424 668,189</td>
<td></td>
</tr>
</tbody>
</table>

**Table 1: Assets by group of Voda1A,**7

<table>
<thead>
<tr>
<th></th>
<th>CZK 12 946 864, 337 thousand for 2019</th>
<th>CZK 18 424 668,189 thousand for 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>The significant year-on-year increase in the value of assets is caused by the revaluation of the value of assets in VÚME based on the methodological instruction of the Ministry of Health ref. no. 14000/2020-15132-1.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 2: Annual adequate funding for the restoration assets of Voda1A**9

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6 VÚME (Database of Ministry of Agriculture of the Czech Republic), selected data from property records
7 Data source: Database of Ministry of Agriculture of the Czech Republic (VÚME).
8 Guideline of Ministry of Agriculture Czech Republic for approximate indicators of the calculation of the (updated) acquisition price of objects in selected data of property records of water mains and sewers.
9 The calculation made by J. ČECH, Director of the Department of the Office of the Minister of Agriculture Czech Republic. Ref. MZE-28051/2022-15161 with May 11th, 2022.
Calculation of the percentage of reproduction:

Percentage year 2020 = 187 / 12,947 = 1.46%
Percentage year 2021 = 265 / 18,425 = 1.44%

In addition to the above, it should be emphasized that in addition to the above-mentioned planned investments, retained earnings finance other costs of the company, unexpected, forced investments or major repairs.

Graph 3: Rent of Voda1A, 2014-2021

Rent means the amount for which the company Voda1A, leases the water management property to the operator, the company Voda2. For 2021, the rent is approximately CZK 151.8 million. The level of rent does not represent enough funds for the renewal of infrastructure.

In addition, the following may be recognized as economically justifiable costs:

**Rent.** Economically justified expense is the rent for the lease of infrastructural water management assets (movable and immovable property) which is used exclusively for the supply of drinking water from the waterpipe or for the removal of water through sewers. Rent (rent) can be negotiated up to the amount corresponding to the aggregate:

1. depreciation on leased infrastructure assets,
2. the costs incurred by the owner for repairs and maintenance of the infrastructure assets,

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10 Ministry of Finance of the Czech Republic, *Ref.: M7-19349,2021/1601-2* and in Notice No. 01/VODA/2022 of 12 July 2021 on price regulation in the water supply and sewerage sector, pursuant to Section 10 of Act No. 526/1990 Coll., on Prices, stipulates the goods and the method of their price regulation for all sales áutterící in the field of water supply and kanalizaci for the period 2022-2026.
3. overheads associated with the management and leasing of infrastructure assets,
4. interest on loans taken out for the implementation of the renewal plan of the leased infrastructure assets,
5. a reasonable profit associated with those activities.

Graph 4: Depreciation of assets of Voda1A, 2014-2021

Depreciation of tangible and intangible fixed assets has been increasing in the long term. The reason is the increasing value of the property due to extensive investments. At the same time, depreciation generates funds that the company can spend in the future on the renewal of the existing water and sewerage network.11

Depreciation of assets necessary for the supply of water or for the collection or treatment of wastewater or demonstrably serving to ensure the continuity and security of the supply of drinking tap water, up to the amount applied for the year in question, is governed by the accounting legislation and generates financial resources.

Some economic indicators of Voda2B that have some connection with Voda1A

<table>
<thead>
<tr>
<th>Year</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lease of infrastructure assets</td>
<td>80 496</td>
<td>83 289</td>
<td>82 084</td>
<td>79 464</td>
<td>81 102</td>
<td>75 657</td>
<td>105 471</td>
<td>105 829</td>
<td>107 866</td>
</tr>
<tr>
<td>Sales without VAT</td>
<td>332 617</td>
<td>368 579</td>
<td>419 697</td>
<td>434 906</td>
<td>497 454</td>
<td>510 508</td>
<td>551 560</td>
<td>535 779</td>
<td></td>
</tr>
<tr>
<td>Rent to revenue ratio</td>
<td>24,20 %</td>
<td>22,60 %</td>
<td>19,56 %</td>
<td>18,27 %</td>
<td>16,30 %</td>
<td>14,82 %</td>
<td>19,12 %</td>
<td>19,75 %</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: indicators, 2006-2014, of Voda2B

11 Annual report Year 2021 of Voda1A.
Indicators of economic success

Profit maximization involves a large number of ways of acting. To assess their success, a number of indicators are used, such as profit, profitability, economy, productivity and the like. Profit appears most significantly in business practice in the form of balance and calculation profits.

**Balance sheet profit** is measured as the positive difference between income and expenses of the period. It is an expression of the interest on equity.

**The calculation gain** is calculated within the planning and budgeting of costs as the positive difference between the calculation revenue and the calculation cost in the quantification of the calculation profit. A year’s return on equity would represent a minimum return, sometimes the minimum return is calculated on the capital share. In the calculations, we also take into account the average wage.

The profit target can be formulated either:
- **absolute** as the difference between income and expenses in the financial year,
- **relatively**, as the proportion between the profit thus quantified and the capital employed in its formation.

Depending on whether the return on equity or total capital or the return on turnover is assessed, we distinguish:
1. return on total capital,
2. return on equity,
3. return on turnover.

**The return on total capital** is determined by dividing the sum of profit and capital. Return on capital indicates the amount of interest on the invested total capital for a given period. Years paid from foreign capital are an expense item.

**Profitability of companies operating in water management:**
We evaluate according to the following indicators: Return on equity (ROE), return on sales (ROS), or return on assets (ROA).\(^{12,13,14}\)

On the website of the Czech Statistical Office there are the following data:

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\(^{12}\) ROE (sic) Return On Equity.
\(^{13}\) ROS (sic) Return On Sales.
\(^{14}\) ROA (sic) Return On Assets.
Table 5: Profitability of selected indicators

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on total assets (ROA)</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on equity (ROE)</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on sales (ROS)</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Equity income relates the profit made over the period to equity. This indicator informs about the amount of interest this time on equity.

The return on turnover is based on the ratio of profit to turnover, i.e. to the monetary value of services sold over a given period. It expresses what percentage is the profit from the achieved revenues for the monitored period. All of the above quantities are ratio indicators of a value character. The following productivity indicators, on the other hand, have a material, volumetric character.

Economy means the relation between the return expressed in money and the number of factors of production expended, again valued in money. If the calculated proportion is equal to one, the yield obtained covers the costs. If it is greater than one, a profit has been made.

Table 6: Acquisition price assets of Voda1A's

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pozemky</td>
<td>22 843</td>
<td>22 913</td>
<td>22 075</td>
<td></td>
</tr>
<tr>
<td>Budovy a stavby</td>
<td>3 128 366</td>
<td>3 187 596</td>
<td>3 278 975</td>
<td></td>
</tr>
<tr>
<td>Stroje a zařízení</td>
<td>402 338</td>
<td>404 496</td>
<td>407 241</td>
<td></td>
</tr>
<tr>
<td>Jiné</td>
<td>39 165</td>
<td>41 496</td>
<td>44 241</td>
<td></td>
</tr>
<tr>
<td>Nedokončené investice</td>
<td>17 689</td>
<td>26 504</td>
<td>64 334</td>
<td></td>
</tr>
<tr>
<td>Celkem</td>
<td>3 610 401</td>
<td>3 683 009</td>
<td>3 814 866</td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Depreciation of Voda1A

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDM</td>
<td>8</td>
<td>1 881</td>
<td>1 859</td>
</tr>
<tr>
<td>DHDM</td>
<td>723</td>
<td>749</td>
<td>887</td>
</tr>
<tr>
<td>HDM</td>
<td>105 875</td>
<td>106 784</td>
<td>109 035</td>
</tr>
<tr>
<td>Vodoměry</td>
<td>2 085</td>
<td>1 255</td>
<td>1 948</td>
</tr>
<tr>
<td>ZC vyřazeného DM</td>
<td>0</td>
<td>23</td>
<td>192</td>
</tr>
<tr>
<td>Odpyši celkem</td>
<td>108 696</td>
<td>110 472</td>
<td>113 689</td>
</tr>
</tbody>
</table>


16 Annual report of Voda1A (year 2021)
Table 1 Net book value assets of Voda1A

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pozemky</td>
<td>22,843</td>
<td>22,913</td>
<td>22,075</td>
</tr>
<tr>
<td>Budová a stavby</td>
<td>1,321,245</td>
<td>1,299,291</td>
<td>1,293,204</td>
</tr>
<tr>
<td>Stroje a zařízení</td>
<td>83,039</td>
<td>89,277</td>
<td>89,778</td>
</tr>
<tr>
<td>Jiné</td>
<td>443</td>
<td>863</td>
<td>926</td>
</tr>
<tr>
<td>Netočkonečné investice</td>
<td>17,669</td>
<td>28,304</td>
<td>64,334</td>
</tr>
<tr>
<td>Celkem</td>
<td>1,455,294</td>
<td>1,419,848</td>
<td>1,442,377</td>
</tr>
</tbody>
</table>

Table 9: Share capital of Voda1A, Annual Report 2021

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Zůstatek k 31. 12. 2019</td>
<td>1,030,294</td>
<td>1,030,294</td>
<td>55,080</td>
<td>5,088</td>
</tr>
<tr>
<td>Zvýšení 2020</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Snížení 2020</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Zůstatek k 31. 12. 2020</td>
<td>1,030,294</td>
<td>1,030,294</td>
<td>55,080</td>
<td>5,088</td>
</tr>
<tr>
<td>Zvýšení 2021</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Snížení 2021</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Zůstatek k 31. 12. 2021</td>
<td>1,030,294</td>
<td>1,030,294</td>
<td>55,080</td>
<td>5,088</td>
</tr>
</tbody>
</table>

Table 10: Breakdown s revenues of Voda1A', Annual Report 2021

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>pronájem vodenské infrastruktury</td>
<td>136,411</td>
<td>141,887</td>
<td>151,798</td>
</tr>
<tr>
<td>z toho:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vodovodní síť</td>
<td>61,866</td>
<td>64,372</td>
<td>73,015</td>
</tr>
<tr>
<td>kanalizační síť</td>
<td>74,515</td>
<td>77,495</td>
<td>78,783</td>
</tr>
<tr>
<td>ostatní rámy</td>
<td>1,883</td>
<td>1,798</td>
<td>1,548</td>
</tr>
<tr>
<td>vynosy za propagaci</td>
<td>0</td>
<td>422</td>
<td>0</td>
</tr>
</tbody>
</table>

Calculation

**Return on equity (ROE)**

Return on equity (ROE) is a monetary indicator that tells us about the ratio between the funds that flow equity. Further, we assume that it is the entire property of the company, at the same time it represents the company's equity, then the resulting profit from the profitability of the equity will be.

By calculating we get absolutely credible data on the profit that a given device representing capital would produce in a year. Profitability is based on average statistical data in similar services in the Czech Republic.17

**Return of assets (ROA)**

Return of assets (ROA) – profitability calculated based on assets - is a monetary indicator that tells us about the ratio between the funds that flow from all our assets that we have allocated in some way or are tracking. In this case we only look at the return on assets, called ROA. If we take into account that tangible and intangible fixed assets are simply the sum of the value of the production technology and the value of real estate and are thus equal to the funds of production, then the resulting profit will result from the profitability of the production funds. By calculating, we get absolutely credible data on the profit that the asset equipment would produce in a year. The profitability of production funds is based on average statistical data in similar services in the Czech Republic.

\[
ROA \% = \frac{ZPoZ}{A} \times 100
\]

\[
=> ZPoZ = ROE \times A / 100
\]

ROA = return on assets, Table 2 = 3,96%

\[
ZPoZ = \text{profit after tax}
\]

\[
A = \text{assets, from general meeting data} = \text{CZK 1 496 861 000}^{19}
\]

\[
ZPoZ = 3,96 / 100 \times 1 496 861 000 = 59 275 696 \text{ CZK}
\]

**Return on Sales (ROS)**

Return on Sales (profitability) is a monetary indicator that tells us about the ratio between the funds that flow from all our sales that we monitor. Voda1A has revenues more or less only from the lease of infrastructure equipment, which does not generate adequate revenues with this property. These corresponding revenues have the company that has leased this property, and that is Voda2B. Thus, we can calculate this return on sales, called ROS.

The return on sales is based on average statistical data in similar services in the Czech Republic.

\[
ROA \% = \frac{ZPoZ}{TRP} \times 100
\]

\[
=> ZPoZ = ROS \times TRP / 100
\]

ROE = return on sales, Table 2 = 5,78%

\[
ZPoZ = \text{profit after tax}
\]

\[
TRP = \text{presumed revenues, Table 5 = CZK 569 303 000}
\]

\[
ZPoZ = 5,78 / 100 \times 442 377 000 = \text{CZK 25 569 391}
\]

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18 **Closing financial statement**, Balance sheet, liabilities, Equity (year 2021)
19 **Closing financial statement**, Balance sheet, assets, Total assets (year 2021)
Rent

The rent (rent) is equal to the value intended to cover the renewal of the leased infrastructure assets under the water and sewerage renewal financing plan and the overheads and wage costs resulting from the 2021 profit and loss account of Voda1A.

<table>
<thead>
<tr>
<th>ROE</th>
<th>88 486 943 CZK</th>
</tr>
</thead>
<tbody>
<tr>
<td>tax 19 %</td>
<td>16 812 519 CZK</td>
</tr>
<tr>
<td>Power consumption</td>
<td>14 635 000 CZK</td>
</tr>
<tr>
<td>Labor costs</td>
<td>10 718 000 CZK</td>
</tr>
<tr>
<td>Depreciation hm. Asset</td>
<td>113 689 000 CZK</td>
</tr>
<tr>
<td>Overall</td>
<td>244 341 462 CZK</td>
</tr>
</tbody>
</table>

Table 2: Rent calculated from ROE

<table>
<thead>
<tr>
<th>Recovery ROE 1.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
</tr>
<tr>
<td>Depreciation of Assets</td>
</tr>
<tr>
<td>overall</td>
</tr>
<tr>
<td>Acquisition of Assets</td>
</tr>
<tr>
<td>% of recovery</td>
</tr>
</tbody>
</table>

Table 12: Percentage to recovery from ROE

<table>
<thead>
<tr>
<th>Recovery ROA 0.94%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
</tr>
<tr>
<td>tax 19 %</td>
</tr>
<tr>
<td>Power consumption</td>
</tr>
<tr>
<td>Labor costs</td>
</tr>
<tr>
<td>Depreciation of Assets</td>
</tr>
<tr>
<td>overall</td>
</tr>
</tbody>
</table>

Table 13: Rent calculated from ROA

<table>
<thead>
<tr>
<th>Recovery ROS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
</tr>
<tr>
<td>tax 19 %</td>
</tr>
<tr>
<td>Power consumption</td>
</tr>
<tr>
<td>Labor costs</td>
</tr>
<tr>
<td>Depreciation of Assets</td>
</tr>
<tr>
<td>Overall</td>
</tr>
</tbody>
</table>

Table 14: Percentage for recovery from ROA

Table 15: Rent calculated from ROS
ROSrecovery 0.76%

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>25,569,391 CZK</td>
</tr>
<tr>
<td>Depreciation of Assets</td>
<td>113,689,000 CZK</td>
</tr>
<tr>
<td><strong>In total</strong></td>
<td><strong>139,258,391 CZK</strong></td>
</tr>
<tr>
<td>Acquisition of Assets</td>
<td>18,424,670,000 CZK</td>
</tr>
<tr>
<td>% of recovery</td>
<td>0.76 %</td>
</tr>
</tbody>
</table>

**Table 16: Percentage to recovery from ROE**

Recovery 2%

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition of Assets</td>
<td>18,424,670,000 CZK</td>
</tr>
<tr>
<td>2% of recovery</td>
<td>368,493,400 CZK</td>
</tr>
</tbody>
</table>

**Table 17: 2 Percentage for renewal**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2% of recovery</td>
<td>368,493,400 CZK</td>
</tr>
<tr>
<td>Power consumption</td>
<td>14,635,000 CZK</td>
</tr>
<tr>
<td>Labor costs</td>
<td>10,718,000 CZK</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>393,846,400 CZK</strong></td>
</tr>
</tbody>
</table>

**Table 18: Rent calculated at 2 % for renewal**

The calculated rental price according to ROE is CZK 244,341,462
The calculated rental price according to ROA is CZK 209,580,077
The calculated rental price according to ROS is CZK 169,469,575
The calculated rental price according to the 2% renewal is CZK 393,846,400

**Capitalization yield method**

The yield method of calculation is based on the yields of the subject of valuation, which can usually be obtained from the subject of valuation under the given conditions. We evaluate the invested capital and find out what profit it has. The basis and inputs for the yield method are the financially quantified value of the profit from the registered capital belonging to the owner/user. Other operands in the calculation are the costs that the maintenance of capital bears. Then, for the help of capitalization rates, we convert and find out the price of the yield, or we can calculate the optimal leases. The capitalization rate takes into account inflationary effects, opportunity investment opportunities, the level of risk and other economic indicators that affect the size of the capitalization rate upwards or downwards. The author determined the capitalization rate by qualified estimation with regard to inflationary effects, interest rates, level of risk and properties for the given investment asset, including its position in the bidding band, in the variant between 5, 10 and 15%. With ever-increasing inflation and turbulence breaking records from previous years, it is a bit difficult to seriously predict how this market will develop. In our study, with rising inflation, we have to increase the dispersion of the licitation spread and thus find out with a certain probability the point where the actual pre-tax profit is located at a certain presumed capitalization.

We compare this situation with the actual situation and understand the difference as lost profit or potential harm.
Capitalization rate 5%

ZpřZ = ZK x mKAP [%] / 100

\[ mKAP\% = \text{Capitalization rate, } = 5\% \]

\[ XP = \text{Share Capital, } = 1\ 030\ 294\ 000\ CZK^{20} \]

\[ ZprZ = \text{Profit before tax} \]

\[ ZprZ = 1\ 030\ 294\ 000\ CZK \times 5\% / 100 = 51\ 514\ 700\ CZK \]

Withholding tax 15%

Net income 43\ 787\ 495\ CZK

Capitalisation rate 10%

ZpřZ = ZK x mKAP [%] / 100

\[ mKAP\% = \text{Capitalization rate, } = 10\% \]

\[ XP = \text{Share Capital, } = 1\ 030\ 294\ 000\ CZK^{21} \]

\[ ZprZ = \text{Profit before tax} \]

\[ ZprZ = 1\ 030\ 294\ 000\ CZK \times 10\% / 100 = 103\ 029\ 400\ CZK \]

Withholding tax 15%

Net income 87\ 574\ 990\ CZK

Capitalisation rate 15%

ZpřZ = ZK x mKAP [%] / 100

\[ mKAP\% = \text{Capitalization rate, } = 15\% \]

\[ XP = \text{Share Capital, } = 1\ 030\ 294\ 000\ CZK^{22} \]

\[ ZprZ = \text{Profit before tax} \]

\[ ZprZ = 1\ 030\ 294\ 000\ CZK \times 15\% / 100 = 154\ 544\ 100\ CZK \]

Withholding tax 15%

Net income 131\ 362\ 485\ CZK

The calculated net income of share capital by capitalization of 5% is CZK 43\ 787\ 495
The calculated net income of share capital by capitalization of 10% is CZK 87\ 574\ 990
The calculated net income of share capital by capitalization of 15% is CZK 131\ 362\ 485

Loss of Profit (Injury)
The table below recalculates the revenues related to the lease of water infrastructure and the respective profit resulting from the results of operations for 2021 Voda1A.

<table>
<thead>
<tr>
<th></th>
<th>conversion to MoVo</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sales</td>
<td>153\ 446\ 000\ CZK</td>
<td>148\ 802\ 000\ CZK</td>
</tr>
<tr>
<td>power consumption</td>
<td>14\ 635\ 000\ CZK</td>
<td>14\ 192\ 076\ CZK</td>
</tr>
<tr>
<td>labor costs</td>
<td>10\ 718\ 000\ CZK</td>
<td>10\ 393\ 623\ CZK</td>
</tr>
<tr>
<td>Depreciation</td>
<td>113\ 689\ 000\ CZK</td>
<td>113\ 689\ 000\ CZK</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>14\ 404\ 000\ CZK</td>
<td>10\ 527\ 301\ CZK</td>
</tr>
<tr>
<td>Profit after tax</td>
<td>11\ 667\ 240\ CZK</td>
<td>9\ 579\ 844-CZK</td>
</tr>
</tbody>
</table>

Table 39: Profit conversion relating to the lease of water infrastructure to Voda2B

The table below shows the loss of earnings related to the different capitalization rates

---

20 Closing financial statement, Balance sheet, passive Equity (year 2021)
21 Closing financial statement, Balance sheet, passive Equity (year 2021)
22 Closing financial statement, Balance sheet, passive Equity (year 2021)
<table>
<thead>
<tr>
<th>capitalization (inflation)</th>
<th>existing lease</th>
<th>Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost earnings inflation 5%</td>
<td>43 787 495 CZK</td>
<td>9 579 844 CZK</td>
</tr>
<tr>
<td>Lost earnings inflation 10%</td>
<td>87 574 990 CZK</td>
<td>9 579 844 CZK</td>
</tr>
<tr>
<td>Lost earnings inflation 15%</td>
<td>131 362 485 CZK</td>
<td>9 579 844 CZK</td>
</tr>
</tbody>
</table>

*Table 20: Loss of profit with different capitalization (inflation)*

The calculated lost profit with a capitalization of 5% amounts to CZK 34 207 651
The calculated lost profit with a capitalization of 10% amounts to CZK 77 995 146
The calculated lost profit with a capitalization of 15% amounts to CZK 121 782 641

**Net annual rent determined in several ways**

<table>
<thead>
<tr>
<th>Type of rent determination</th>
<th>Calculated value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 using ROE</td>
<td>244 341 462 CZK</td>
</tr>
<tr>
<td>2 using ROA</td>
<td></td>
</tr>
<tr>
<td>3 using ROS</td>
<td>169 469 575 CZK</td>
</tr>
<tr>
<td>4 by 2% renewal</td>
<td>393 846 400 CZK</td>
</tr>
<tr>
<td>5 Average net annual rent</td>
<td>254 309 379 CZK</td>
</tr>
</tbody>
</table>

*Table 21: Results of determining Net annual rent of the property in several ways*

**Conclusions.** In this article, the author is inclined to the resulting usual Net annual rent of the water infrastructure, which oscillates around the average calculated value, which is the price of CZK 254 309 379. The above-mentioned methods are used to calculate and estimate the usual price. Reliable data exist from the processing of hundreds of similar operations dealing with water services made by Czech Statistical Office. The comparative method (profitability method) is the main method and usually its results are closest to the actual market value and subsequently to the rents achieved and realized, this method indicates a market environment that is heavily regulated by state institutions. Other methods tend to be used for the purpose of re-checking and verification and in most cases introduce certain limits and limits of the price level. If, at the same time, the deviations of the methods used are not too high, it is possible to use the results of the comparative method. Should the deviations be significant, a more in-depth analysis of such differences should be carried out and the resulting open market rental price should be determined, taking into account, where appropriate, the results of other methods. It is necessary to lean towards the yield method and make a qualified estimate between yield and comparative methods and take into account the age and condition of the assets to evaluate the cost method or correct the values by cost of possible reconstruction.

For the sake of clarity and considering the calculations and analyses made, I believe that the price level at which the potential Net annual rent of water
infrastructure is located is in the approximate range between CZK 170 000 000 and CZK 250 000 000.

Given that there were enough reliable statistical data of a similar nature when using the comparative method, sufficient safety coefficients were applied at the same time, and the yield method gives a similar value, it is possible to make the conclusion from the comparative value and the author will consider it as a value corresponding to the market value. The author is inclined to the upper limit of this zone marked with the yellow color of the auction zone, oscillating around CZK 210 000 000. This amount is, but at least CZK 20 000 000-100 000 000 less than the rent set by company Voda1A. Given today's inflation, which is attacking values above 15% per year, author is inclined to the upper limit of this rate.

Graph no. 5: Licitation spread of lease

In Slušovice on December 12th, 2022

References:
2. Law of Czech Republic No. 128/2000 Coll., about municipalities
3. Supreme Court of Czech Republic, ruling No. 28 Cdo 3297/2008 of April 8th, 2009
4. Law Czech Republic No. 250/2000 Coll., on budgetary rules of territorial budgets
5. Annual Report of the year 2021, Voda1A.
6. VÚME (Database of Ministry of Agriculture of the Czech Republic), selected data from property records
7. Data source: Database of Ministry of Agriculture of the Czech Republic (VÚME).

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8. Guideline of Ministry of Agriculture Czech Republic for approximate indicators of the calculation of the (updated) acquisition price of objects in selected data of property records of water mains and sewers.


10. Ministry of Finance of the Czech Republic, Ref.: M7-19349,2021/1601-2 and in Notice No. 01/VODA/2022 of 12 July 2021 on price regulation in the water supply and sewerage sector, pursuant to Section 10 of Act No. 526/1990 Coll., on Prices, stipulates the goods and the method of their price regulation for all salesábutterící in the field of water supplyů a kanalizací for the period 2022-2026.

11. Annual report Year 2021 of Voda1A.
12. ROE (sic) Return On Equity.
13. ROS (sic) Return On Sales.

16. Annual report of Voda1A (year 2021)

18. Closing financial statement, Balance sheet, liabilities, Equity (year 2021)
19. Closing financial statement, Balance sheet, assets, Total assets (year 2021)
20. Closing financial statement, Balance sheet, passive Equity (year 2021)
22. Closing financial statement, Balance sheet, passive Equity (year 2021)