Fuel stations as properties and enterprises – Selected valuation problems

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1. Overview
RESEARCH proposal

THE RESEARCH OBJECTIVE
• The identification of differences in the valuation of fuel stations treated as an enterprise and a commercial property

JUSTIFICATION
• Fuel stations are sold either as enterprises or their organised parts or as properties.
• Assets of the enterprise and the property may vary significantly.
• The income methods based on the operation profit is applied both to the valuation of companies and commercial properties. In case of the fuel station valuation the assessment is based, in both cases, on income from fuel sales, non-fuel retail, and the accompanying service sales.

RESEARCH QUESTIONS
• What asset is comprised by fuel stations treated as a property and as an enterprise?
• What is the difference between the value of the enterprise and the property?
• What are the differences in the fuel station valuation methods as an enterprise and as a property?
Research methodology

- **Literature review**
  - Powszechne Krajowe Zasady Wyceny, 2014. NI Zastosowanie podejścia dochodowego w wycenie nieruchomości, .
  - Domadaran http://pages.stern.nyu.edu/~adamodar/
  - The Civil Code

- **Data collection METHODS:**
  - Case studies
  - Data analysis – 2017.02.
definition comparison 
Of the commercial property and the 
enterprise
Commercial property

• The property generating the periodical income from the rent or the business run on the property
• Land
• Buildings and construction
• FIXED property equipment and devices
• property rights such as rent of the land and equipment lease
• furnishing (usually not included)
• Property Goodwill

enterprise

Organized tangible and intangible assets necessary for business activity

• Land
• Buildings and construction
• FIXED property Equipment and devices
• agreements, contracts, licences, patents
• Furnishing
• Working capital
• Goodwill
Fuel station as a property and an enterprise
Fuel station as a property

A commercial property which is functionally organized both from the formal, technical and economic point of view and which generates income from the fuel sale and other goods and complementary services associated mainly with motorised customers

- Land
- Buildings, canopy, roads & car parks, Price pylon
- Fuel system, fuel pumps, tanks, compressor, vacuum cleaner
- Property rights such as rent of the land and equipment lease
- Shop and office furnishing (usually not included)

Fuel station as an enterprise

An Organised set of tangible and intangible assets dedicated to the trade related activity involving the sale of fuels and non-fuel goods

- Land
- Buildings, Canopy, roads & car parks, Price pylon
- Fuel system, fuel pumps, tanks, compressor, vacuum cleaner
- Agreements e.g. fuel supply agreements, franchise agreement
- Shop and office furnishing, CCTV, cash system
- Working capital (fuel stocks, non-fuel goods, liabilities, receivables)
- Goodwill
- Staff
4 Value of property and enterprise

PHOTO: K. Mystkowski, D. Werner
Different practical scope of property and enterprise will result in value differences

Debt issue may be skipped in both cases for comparison needs

• FURNISHING
• STAFF– GOODWILL
• WORKING CAPITAL
• CASH
5 Valuation methods - CF
## Valuation calculation

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Calculation category</th>
<th>explanation</th>
<th>capitalization/discount rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Operating income</td>
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<tr>
<td>B</td>
<td>Operating costs</td>
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<tr>
<td>C</td>
<td>Gross income</td>
<td>A-B</td>
<td></td>
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<tr>
<td>D</td>
<td>Operating expenses</td>
<td></td>
<td></td>
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<tr>
<td>E</td>
<td>Other expenses incurred by owner</td>
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<td></td>
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<tr>
<td>F</td>
<td>Total expenditure</td>
<td>D+E</td>
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</tr>
<tr>
<td>G</td>
<td>Net operating income</td>
<td>C-F</td>
<td>Rn or r</td>
</tr>
<tr>
<td>H</td>
<td>Management and general costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Other ownership costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Total ownership cost (e.g. SPC)</td>
<td>H+I</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>EBITDA</td>
<td>G-J</td>
<td></td>
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<tr>
<td>L</td>
<td>Depreciation</td>
<td></td>
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</tr>
<tr>
<td>M</td>
<td>EBIT</td>
<td>K-L</td>
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<tr>
<td>N</td>
<td>Income tax</td>
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<tr>
<td>O</td>
<td>NOPAT</td>
<td>M-N</td>
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<td>Depreciation</td>
<td></td>
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<tr>
<td>R</td>
<td>Investment outlay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Changes in working capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>FCFF</td>
<td>O+P-R+/-S</td>
<td>WACC</td>
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</tbody>
</table>
discounted cash flow

PROPERTY
• NOI – DISCOUNT RATE FOR NOI;

ENTERPRISE
• FCFE – CAPM
• FCFF - WACC
Property valuation

6

procedure

profits method
Valuation steps

Step 1. User’s Turnover (UT) determined on the basis of trade related activity carried out in the property.
Step 3. User's Net Operating Income (UNOI) calculated as a difference between the User's Gross Income (UGI) and Operating Expenses (OE).
Step 4. Net Operating Income (NOI) of the property owner calculated as the property owner's share in the User's Net Operating Income (DUNOI). The amount of income is determined on the basis of market data or in any other reasonable way.
Step 5. Discount rate estimation
Step 6. Residual value estimation
Step 7. Property valuation assessment as the total of discount and residual values.
7 EntErprise valuation procedure
Valuation steps

Step 1. Income assessment
Step 2. Operating, management, and general costs assessment
Step 3. EBITDA assessment
Step 4. EBIT assessment
Step 5. NOPAT assessment
Step 6. FCFF assessment
Step 7. WACC assessment
Step 8. Residual value assessment
Step 9. Enterprise value assessment as a total of FCFF and RV
Step 10. Increasing the enterprise value with NOA and Cash
8 Case study
OBJECT of valuation

- location: small town in Poland with 13,600 inhabitants
- by regional road 521
- Traffic density – 2,500 vehicles/day
- car number per 1,000 inhabitants - 550
- competition: 2 other fuel stations nearby
- potential new competition: 0
- year of construction: 2012
- no-name station with a shop and a carwash
- the plot size is about 2,935 m²
- the shop size is about 138.15 m²
- 8 employees
- opened 24 h/day
### Valuation calculation

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<thead>
<tr>
<th>Symbol</th>
<th>Calculation category</th>
<th>PLN</th>
<th>capitalization/discount rate</th>
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<td>B</td>
<td>Operating costs</td>
<td>9 697 121</td>
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<td>C</td>
<td>Gross income</td>
<td>625 599</td>
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<tr>
<td>D</td>
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<td>E</td>
<td>Other expenses incurred by owner</td>
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<td>F</td>
<td>Total expenditure</td>
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<td>G</td>
<td>Net operating income</td>
<td>411 733</td>
<td>R = 13.5%</td>
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<tr>
<td>I</td>
<td>other ownership costs</td>
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</tr>
<tr>
<td>J</td>
<td>Total ownership cost (eg. SPC)</td>
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<tr>
<td>K</td>
<td>EBITDA</td>
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<td>R</td>
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Conclusions
conclusions

In the analysed case study the value of the enterprise is 9% higher than the value of the property.

Valuation of the property generating income cannot be synonymous with the valuation of the enterprise because of:

• A different subject matter and scope of valuation
• Different calculation formulas of CF

Future research

• Research into a fuel station chain/group
• The bigger sample research
CONTACT INFORMATION

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