

The Valuation of Grain Silos

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The Valuation of Grain Silos

- ▶ Introduction
- ▶ Background to Valuation
- ▶ How do we value silos
- ▶ Background to municipal valuations
- ▶ Questions

Introduction

- ▶ Presentation is based on a M.Sc. (Real Estate) study that was done at the University of Pretoria (Study Leader was Dr. DGB Boshoff)
- ▶ Choice of study was due to the fact that we were appointed to do a valuation and there was no clear method to value a silo

Background to valuation

- ▶ Common Methods of Valuation that is used by Valuers
 - ▶ Comparable sales method of valuation
 - ▶ Income capitalization method of valuation
 - ▶ Discounted cash flow method of valuation
 - ▶ Depreciated replacement cost method of valuation

Comparable sales method of valuation

- ▶ Comparing the subject property directly with properties that sold in the recent past.
- ▶ The method is preferred by the South African courts.
- ▶ The method is used to value the following types of properties:
 - ▶ Residential houses
 - ▶ Farms (Compare land use components)
 - ▶ Sectional title (Compare sales price per m²)
 - ▶ Vacant land

Income capitalization method of valuation

- ▶ Method is used to value income producing properties
- ▶ Indirect comparison method of valuation
- ▶ Subject property is measured, annual rental for the 1st year is calculated based on area of the building and market related rental (gross rental), annual expenses is deducted (net rental), the net rental is divided by a capitalization rate.
- ▶ The capitalization rate is determined from sales of similar properties. The capitalization rate is calculated on the same calculation as is used in the valuation above.
- ▶ The method is used to value the following types of properties:
 - ▶ Commercial properties (Shops, offices, etc.)
 - ▶ Industrial properties
 - ▶ Any other income producing properties.

Discounted cash flow method of valuation

- ▶ Method is mostly used to value income producing properties with long term leases
- ▶ Method consists of discounting all future cash flows to present value
- ▶ The method is used to value the following types of properties:
 - ▶ Commercial properties with long term leases
 - ▶ Industrial properties with long term leases

Depreciated replacement cost method of valuation

- ▶ Method used to value specialized properties
- ▶ Land value is calculated on comparable sales. Replacement cost is calculated by multiplying the area of the building by market related building costs. From the replacement cost deductions are made for physical depreciation, functional obsolescence and economical obsolescence.
- ▶ The method is used to value the following types of properties:
 - ▶ Schools
 - ▶ Churches
 - ▶ Police stations
 - ▶ Hospitals
 - ▶ Etc.

Application of the methods of valuation on grain silos

Method of valuation	Applicability on grain silos
Comparable sales	Sales of silos rarely take place
Discounted cash flow	Silos do not have a predictable income stream to discount to present day value
Depreciated replacement cost	Impossible to determine the functional and economical depreciation without sales
Income Capitalization	Only method that can be accurately applied to the valuation of grain silos

Application of the Income Capitalization method on grain silos

- ▶ The method can not be applied in its standard form. Some adjustments has to be made to allow for the specialized nature of a silo:
 - ▶ Income to apply need to be normalized and calculated to allow for fluctuations in demand
 - ▶ Expenses are based on actual costs from statements and budgets (Expenses for equipment need to be included).
 - ▶ Capitalization rate need to be determined from sales of other property types than from grain silos

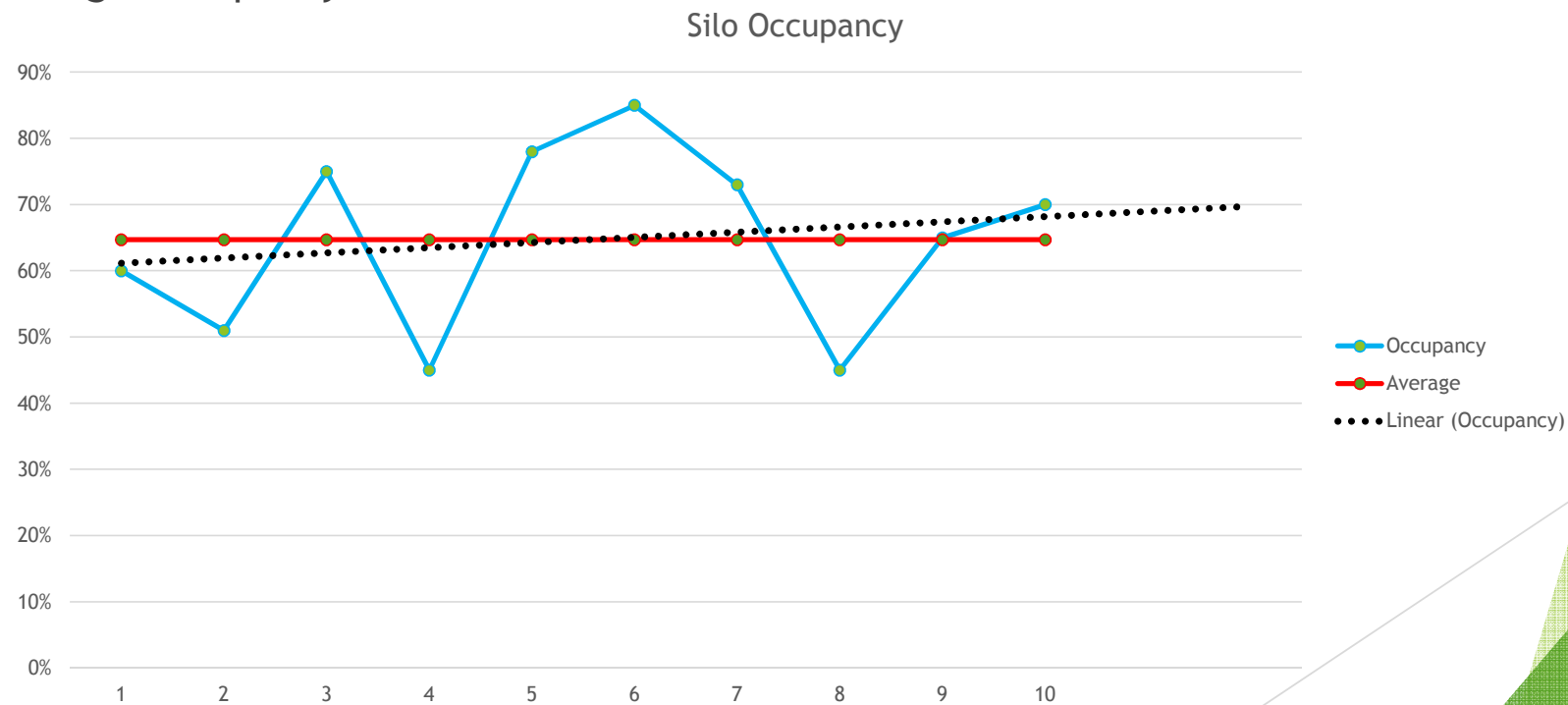
Determination of the income of a silo (1)

- ▶ Yield in the area differs from year to year due to various factors like rainfall, etc.
- ▶ Yield in the area has a direct influence on the demand for storage space and the potential income
- ▶ To apply the occupation of the previous year would give an incorrect value due to the differences from year to year
- ▶ Demand has to be normalized to determine the most likely income that the silo can have in the next year
- ▶ The solution is to use the occupation over a long term and determine whether to use an upward or downward trend or is the average the most likely income for the calculation.
- ▶ Example of the determination of the income:

Determination of the income of a silo (2)

Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Actual	60%	51%	75%	45%	78%	85%	73%	45%	65%	70%

Average Occupancy is 65%



Determination of the income of a silo (3)

- ▶ The trend indicates that the occupancy should be 69%
- ▶ Income from **storage** is calculated as follows:
 - ▶ Capacity of Silo x Occupancy x R/ton per day x 365 days
 - ▶ 50 000tons x 69% x R 1.50 x 365
 - ▶ R 18 888 750
- ▶ Income from **handling of grain, drying and sifting** is calculated in the same way as the income from storage.
- ▶ Total gross income is calculated by adding the income from storage, handling, drying, sifting, etc.

Determination of the expenses of a silo

- ▶ Expenses are determined from the financial information of the silo (budgets and statements)
- ▶ Equipment expenses for lifts, conveyors, etc. is included because without the equipment a silo has a no use and no value.
- ▶ Expenses that are not property related expenses are excluded (salaries, legal fees, vehicles, postage, etc.)
- ▶ Total expenses is calculated and deducted from the gross annual income to determine the net annual income

Determination of the capitalization rate of a grain silo (1)

- ▶ The capitalization rate will have to be determined from another basis and adjusted to take into consideration the additional risk involved with a silo
- ▶ The baseline capitalization rate would be for general storage (industrial type buildings) in the area
- ▶ The cap rate will have to be adjusted for the following factors:

Determination of the capitalization rate of a grain silo (2)

Type of risk	Risk compared with normal storage and silo	Reason
Quality of tenants	Risk is equal	Risk included in income calculation
Quality of the property	Risk is equal	Both well maintained properties
Length of leases	Risk is equal	Demand for storage space will remain in silo
Rental levels	Slightly higher risk with silo	Fluctuations in demand
Alternative use	Higher risk with silo	Silo has no alternative use

The value calculation

- ▶ Capitalization rate is adjusted higher due to the risks mentioned above

The value is determined with the following formula:

$$\text{Value of the silo} = \frac{\text{Net Income}}{\text{Cap Rate}}$$

Summary

- ▶ It is possible to do an accurate valuation of a silo but we need the assistance of the silo owner
- ▶ Information is key to the valuation of a grain silo:
 - ▶ General information on the subject silo
 - ▶ Grain types stored
 - ▶ Capacity
 - ▶ General maintenance information
 - ▶ Income/ occupancy figures for at least the last 5 years for each type of grain stored
 - ▶ Financial statements and budgets

Municipal Values of Grain Silos

- ▶ Municipal Valuations are done for rating purposes every 4-7 years per municipality according to the Municipal Property Rates Act (MPRA)
- ▶ Due to a lack of information from silo owners it is mostly not possible to value the silos as described above (sometimes we even have difficulty to obtain the capacity of the silo)
- ▶ If the municipality advertises the valuation roll do an enquiry on the valuation
- ▶ If you are not satisfied with the valuation you have the opportunity to object
- ▶ If you are not happy with the outcome of the objection you have the opportunity to appeal
- ▶ On the objection and the appeal you need proof that the municipal valuer was incorrect
- ▶ The best advise would be to submit a valuation with the objection/ appeal
- ▶ It would ideal to find out when a new valuation roll will be implemented and align your valuations for statement purposes

Questions



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