Valuation of estate funds and public limited companies - a portfolio view

Estimating the right discount rate !

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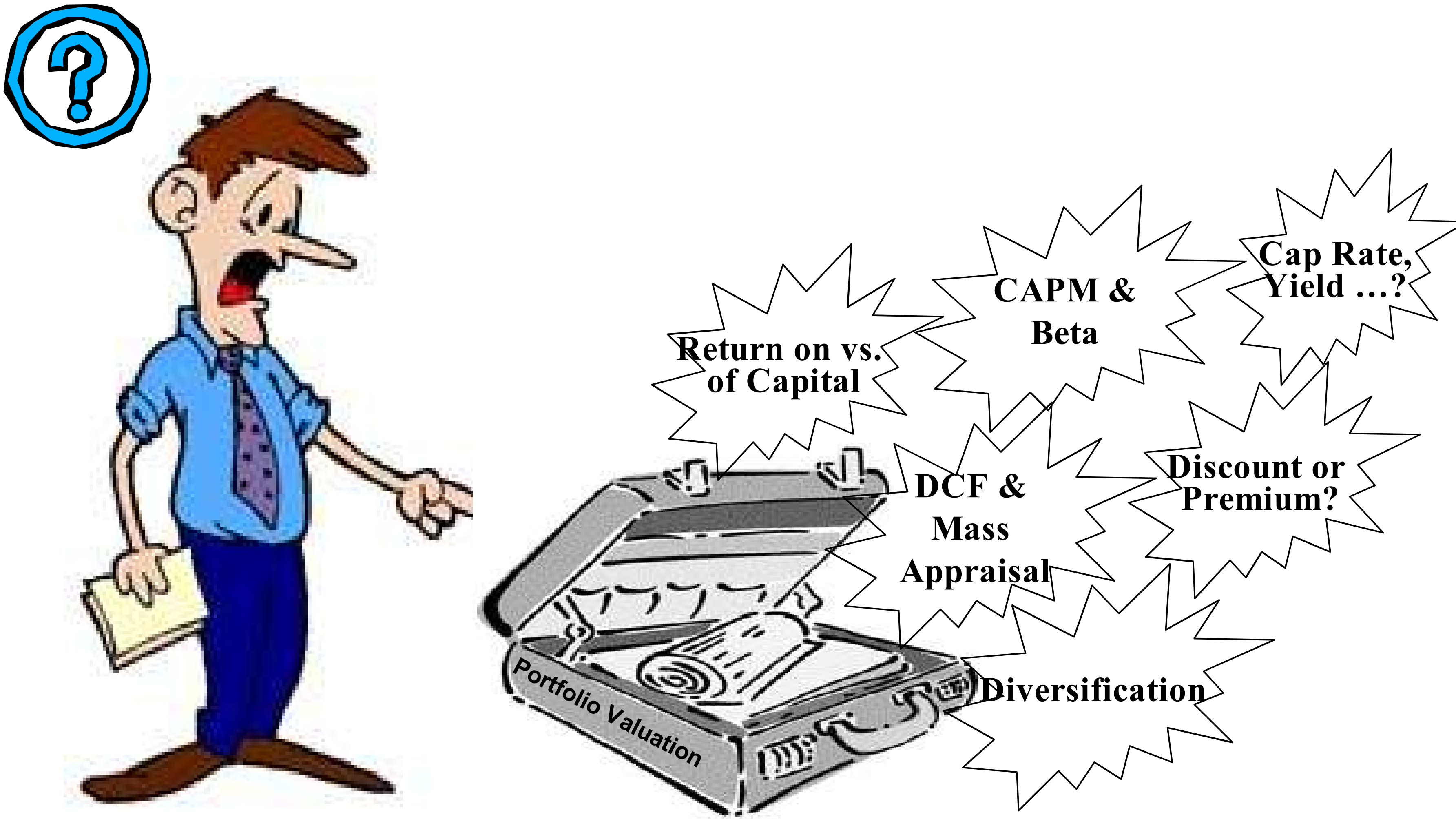

Return on vs. of Capital
CAPM & Beta
Cap Rate, Yield …?
DCF & Mass Appraisal
Discount or Premium?
Diversification
Portfolio Valuation

Discounted Cash Flow method for Property Valuation

- In Germany and Austria this method is well known but until now not one of the approaches promoted by law (WertV and LBG).
- Even though in the well known Red-, Blue- (EVS) and White Book (IVS) the application process for this method is defined, there still exists a wide variety of DCF-valuations techniques in daily use.
- Therefore organizations like the BIIS and the GIF are working on standards for DCF-Valuation-Methods to be used in Germany.
- Defining what kind of discount rate has to be used in such a valuation is crucial to the Market value generated!
- Taking into account that this rate must be different from what we know as a “Kapitalisierungszins” or “Liegenschaftszins” and the existence of more than 50 different rates on an international level things are not getting easier.

Discount Rates within the Discounted Cash Flow method

- Estimating Discount rates:

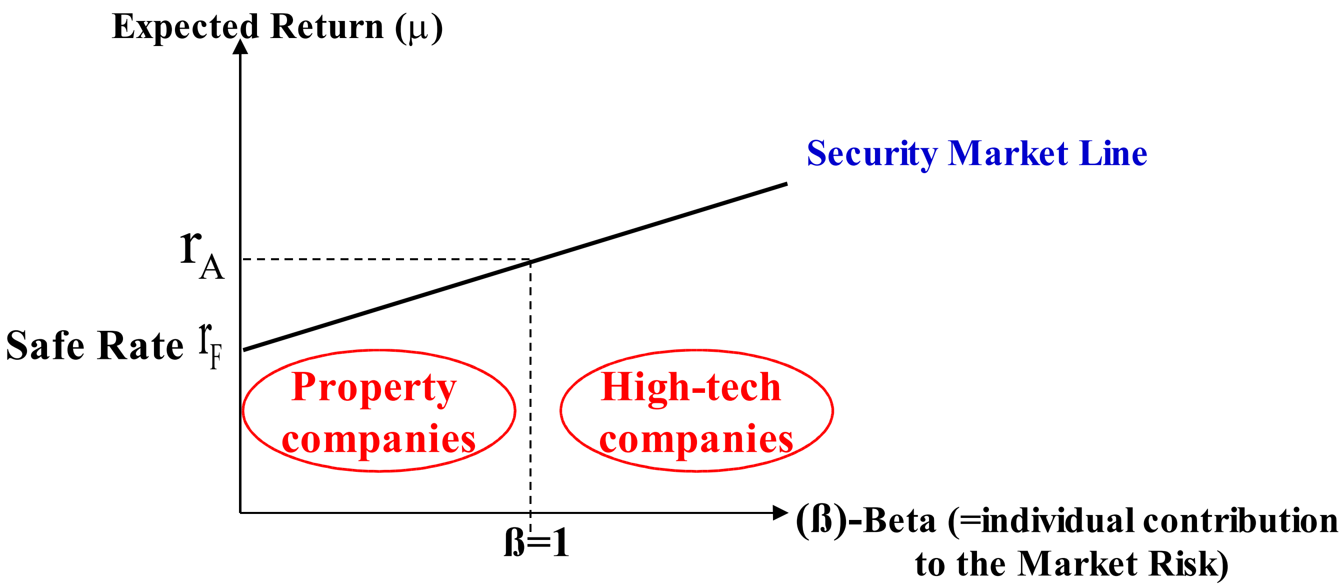
1. From the property market by direct comparison

3. Band-of-investment-method

5. Summation-method

7. Capital marked oriented WACC method

Application of the CAPM to generate discount rates



The more systematic risk an asset carries the higher the return requirement! (CAPM)

Application of the CAPM to generate discount rates

- For valuation in general: Use Betas of listed Companies and industries to do valuations for non-listed assets.
- For Property Valuations: To calculate within the Capital method use the CAPM Rates to convert future benefits of the property into present value.

$$\boxed{\beta_M = \frac{COV_{MA}}{\sigma_A^2} = k_{MA} * \frac{\sigma_M}{\sigma_A}}$$

$$\boxed{r_E = r_F + (r_A - r_F) * \beta_M}$$

Application of the CAPM to generate discount rates

Risk-free-rate (r_F)	Risk Premium	Interest Rate (r_D)	Beta-Factor leveraged ($ß_M$)	Debt (D) / Equity (E)
• Duration should be comparable. • Equals a Secure-Investment opportunity. • 10 year average of government-bonds placed by a first class issuers. • Because of the very low interest rates during the last couple of years this Safe rate is decreasing.	• The market-price for the systematic risk equals the difference between the expected return for the market portfolio (r_A) and the risk free-rate (r_F) • Long term average of returns for stock investments are approx. 12%.	• Effective fixed loan interest rate for property investments. • Taking into account an LTV=0,7 and a fixed rate for 10 years.	• Beta derived from comparables within the same geographic area and with the same investment-style. All using a certain amount of debt to carry out their business. • Beta could serve for the Entity as well as the Equity-Approach. • Commercial-Betas (0,6) are higher than Residential (0,4)	• In accordance with the Band-of-investment-Method an average finance structure for the property investment in question must be assumed. • This structure represents the typical amount of loans an equity-investor would integrate when buying the property.
4,50%	7,50%	4,80%	0,60	70% / 30%

(Weighted) Discount Rate r = ([r_F + $ß_M$ * (r_A – r_F)] * E/(E+D)) + (r_D * D/(E+D)) = 6,06%

CAPM Application within the Discounted Cash Flow method

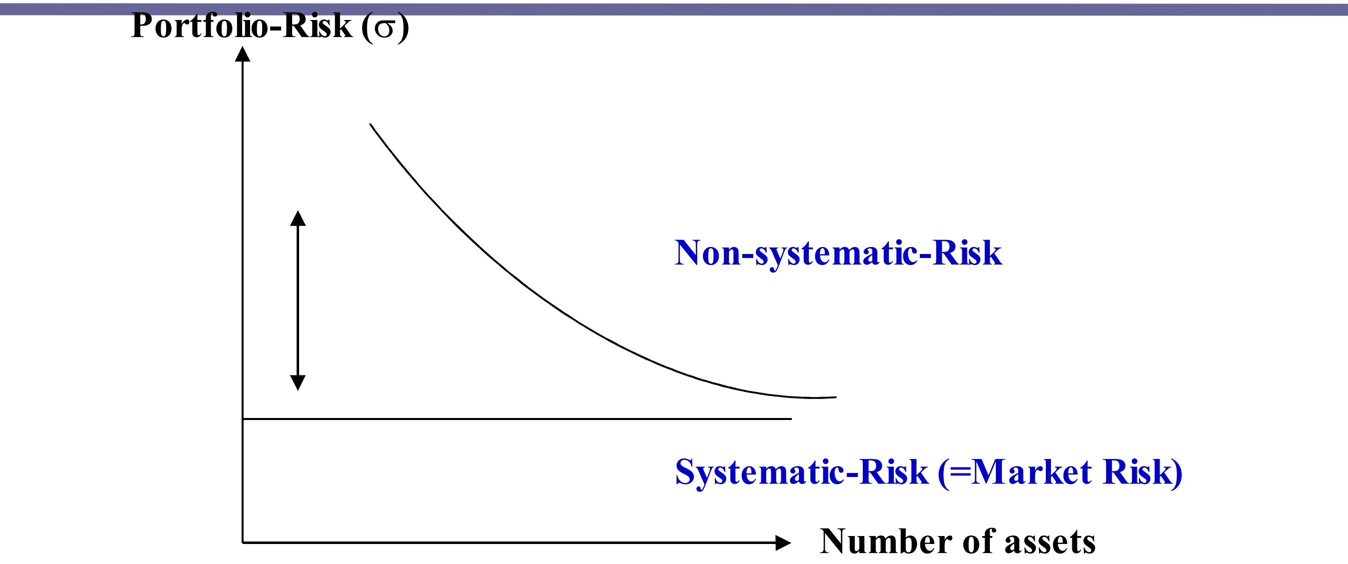
- Problems in practical use:

1. Historical = Predicted Beta?
2. Thin-Trading-Effect
3. Stability over time
4. Defining the right duration
5. Finding listed property companies
6. Return <u>on</u> Capital vs. Return <u>of</u> Capital
7. Only systematic risk!

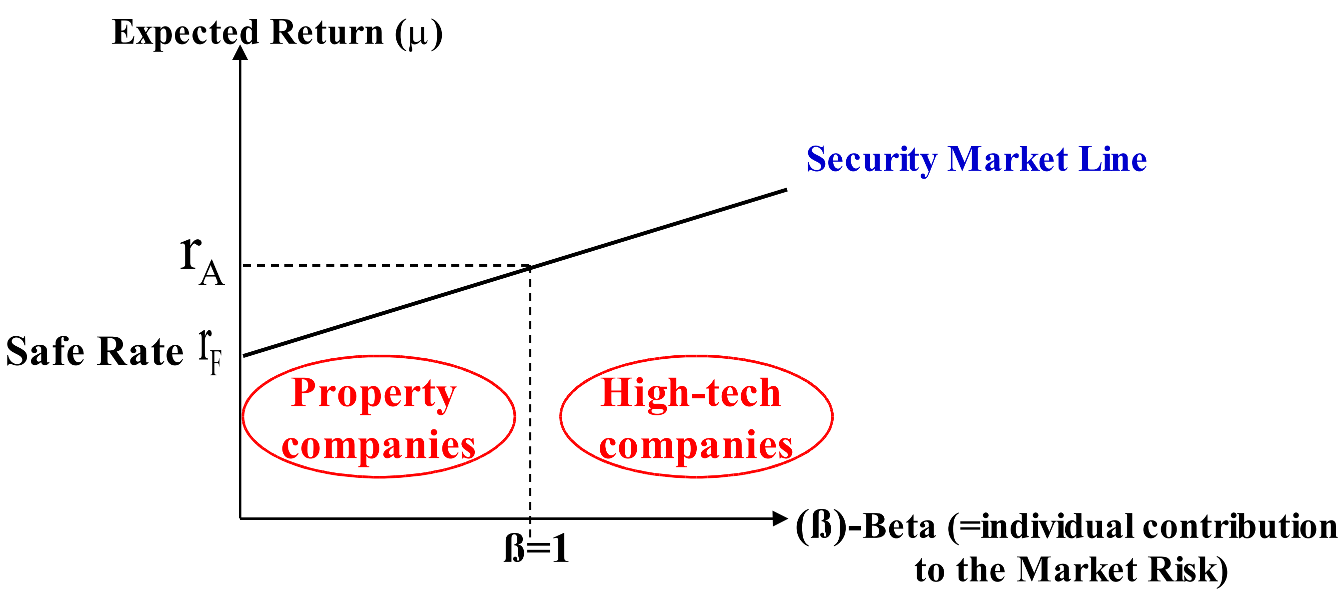
Valuation of Specialised-, Special-Purpose and Specially Designed Properties

Thank you for your attention!

Application of the CAPM to generate discount rates



Non-systematic Risk can be reduced within the portfolio! (MPT)



The more systematic risk an asset carries the higher the return requirement! (CAPM)

Applying CAPM-Findings for Property Valuation

Isolated Objects

Innsbruck	A-Street
Graz	B-Street
Wien	C-Street
Salzburg	D-Street
Kufstein	E-Street

- Direct Capitalization
- DCF (Yield Capitalization)
- "Ertragswertverfahren"

Different Portfolios

Sub-Portfolio A Risk-level ↑

Sub-Portfolio B Risk-level ↓

- Aggregated Values of the properties +/- premium or discount
- Mass appraisal techniques

Corporate Dimension

Company XY

A-Portf

B-Portf

- Entity and Equity Approach
- Multiplier derived from Peer Group

Thank you for your attention!