

The capital market, corporate and personal taxes

Warning: Everything which follows is stylized and simplified

Required rates of return as seen in capital market versus as seen by shareholder:

- Result before taxes
- Corporate taxes
- = Result as seen by the capital market
- Personal taxes
- = Result as seen by a personal shareholder

Typical corporate tax system: Tax base is

- Non-financial cash flow
- + investment
- depreciation deduction
- + interest income
- interest payment

Typical personal tax system: Tax base includes

- dividends
- interest income
- capital gains

but perhaps taxed at three different tax rates

Required expected rates of return for shares with $\beta = 0$

Question: What is the required expected rate of return in the capital market for shares with no systematic risk, or for risk free shares, if they exist?

To find answer: Comparison, from shareholders' point of view, with rate of return on bank deposits (or risk free bonds)

Simplifying assumption here: No inflation

Classical system U.S.A.	Imputation system Norway and some other European countries
t_p = personal tax rate on interest income and dividends	t_c = corporate tax rate = 0.28 t_i = personal tax rate on interest income = 0.28 Dividends exempt from personal income tax
From comparison with bank deposits: Required rate of return after personal taxation is	
$r_f(1 - t_p)$	$r_f(1 - t_i)$
This requirement is met with a return before personal taxes of	
r_f which implies $\theta = 1$	$r_f(1 - t_i)$ which implies $\theta = 0.72$