

EXAMPLE OF THE COST OF CONVEXITY

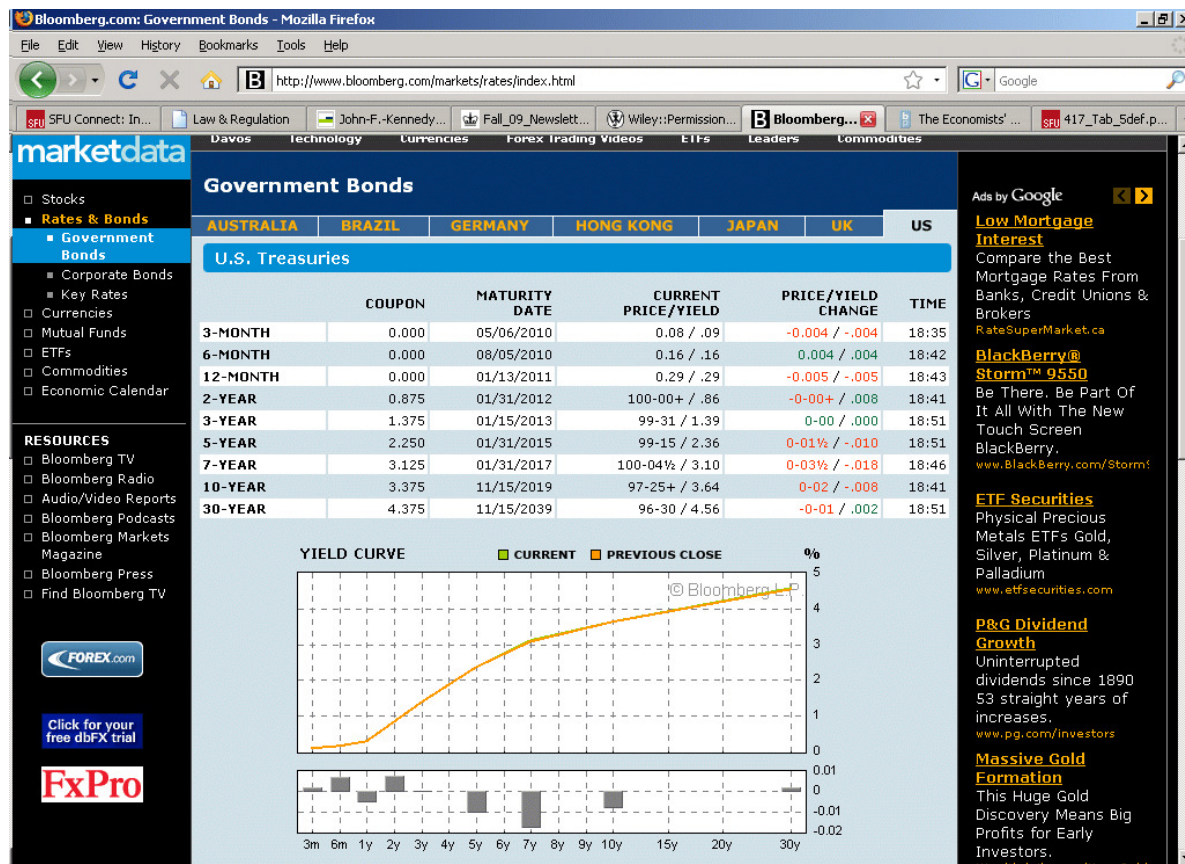
Consider the information from Table 5.5 (SAIS, or 5-d online)

D^* 5 year par bond 4.2177 15 year par bond 8.9919 30 year par bond 11.7642

Solving for the weights that set the duration of the high convexity 5 + 30 barbell to the 15 year par bond

$$8.9915 = (1 - w) 4.2177 + w 11.7642 \rightarrow w = .632585 \quad 1 - w = .367415$$

Consider the following yield curve information from Bloomberg for Feb. 2, 2010



Solving for the return/theta on the asset/barbell portfolio:

$$R = .63 (4.56\%) + .37 (2.36\%) = 3.746\%$$

This *theta* estimate is just above that of the 10 year at 3.64% which is below that for the 15 year (given on the graph as near 4%). Note this example is not exact because the Table 5.5 D^* values will differ slightly from the D^* calculated using the yields from the yield curve from Bloomberg, e.g., SAIS p.218-9