

# Fall 2012: Final A for 4:00 class

P1 Portfolio =  $-0.5(54) + 31.8627 = 4.8627 > 4$

Trans	CF <sub>0</sub>	CF <sub>1</sub>	
		45	65
Buy put <sup>+5</sup>	-4 <sup>+5</sup>	+10 <sup>+5</sup>	0 <sup>+5</sup>
Buy 0.5 shares <sup>+5</sup>	-27 <sup>+5</sup>	+22.5 <sup>+5</sup>	+32.5 <sup>+5</sup>
Short Bond <sup>+5</sup>	+31.8627 <sup>+5</sup>	-32.5 <sup>+5</sup>	-32.5 <sup>+5</sup>
<u>Total</u>	<u>+0.8627<sup>+5</sup></u>	<u>0<sup>+5</sup></u>	<u>0<sup>+5</sup></u>

P2 a. <sup>+5</sup>  $\text{Corr} = \frac{\text{COV}(R_K, R_D)}{\text{SD}(R_K) \text{SD}(R_D)}$

<sup>+5</sup>  $\text{COV}(R_K, R_D) = \frac{+1}{3} \left( (13 - \bar{R}_K)(7 - \bar{R}_D) + (10 - \bar{R}_K)(-3 - \bar{R}_D) + (11 - \bar{R}_K)(56 - \bar{R}_D) + (-21 - \bar{R}_K)(45 - \bar{R}_D) \right)$

<sup>+5</sup>  $\bar{R}_K = \frac{+1}{4} (13 + 10 + 11 - 21)$

<sup>+5</sup>  $\bar{R}_D = \frac{+1}{4} (7 - 3 + 56 + 45)$

<sup>+5</sup>  $\text{SD}_K = \sqrt{\frac{+1}{3} \left( (13 - \bar{R}_K)^2 + (10 - \bar{R}_K)^2 + (11 - \bar{R}_K)^2 + (-21 - \bar{R}_K)^2 \right)}$

<sup>+5</sup>  $\text{SD}_D = \sqrt{\frac{+1}{3} \left( (7 - \bar{R}_D)^2 + (-3 - \bar{R}_D)^2 + (56 - \bar{R}_D)^2 + (45 - \bar{R}_D)^2 \right)}$

b.  $E(R_p) = \frac{100}{400} (\bar{R}_K) + \frac{300}{400} (\bar{R}_D) + 4$