

**Question 1:**

Winnie is a risk-averse investor. He plans to invest in fixed income securities. One investment company shows him two bonds – Bond X and Y. Both pay 8% coupon interest rate with \$1,000 par value. The difference is that bond X has 20 years to maturity, while bond Y has 5 years to maturity.

1.1 If Winnie’s required rate of return is at 11%, how much should he pay for bond X and Y? Calculate Current Yield and Capital Gain/Loss Yield of each bond. Explain how these yields are related to each other. **(10 Points)**

**Answer:**

	<b>N</b>	<b>I/Y=YTM</b>	<b>PV=Price</b>	<b>C-PMT</b>	<b>Par-FV</b>
<b>Bond X</b>	20	11%	<b>\$761.10</b>	80	1000
<b>Bond Y</b>	5	11%	<b>\$889.12</b>	80	1000

<b>YTM = Current Yield + (Capital Gain/Loss Yield)</b>			
	<b>YTM</b>	<b>Current Yield</b>	<b>CapGain/Loss Yield</b>
<b>Bond X</b>	11%	<b>10.51%</b>	<b>0.49%</b>
<b>Bond Y</b>	11%	<b>9.00%</b>	<b>2.00%</b>

1.2 If Winnie wants to minimize interest rate risk, which bond should he purchase? Why? **(5 Points)**

**Answer:**

Should buy Bond Y, since it has lower fluctuation in price changes, implying lower interest rate risk.

**Question 2:**

BigBros Co. just paid a dividend of \$2.75 per share. The company will increase its dividend by 20 percent next year and will then reduce its dividend growth rate by 5 percentage points per year until it reaches the industry average of 5 percent dividend growth, after which the company will keep a constant growth rate forever.

An investor has a long-term investment plan in BigBros Co. in that he has no plan to sell in a short period of time. According to the above information, what is the value per share of BigBros' common stock if he requires 15% return? And what should be appropriate investment strategy (i.e. to buy, sell, or hold) if BigBros' current market stock price is \$45? Why? (10 points)

**Answer:**

$r = 15\%$

<b>Year</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>...</b>
<b>g</b>		20%	15%	10%	5%	...
<b>Div</b>	2.75	<b>3.3000</b>	<b>3.7950</b>	<b>4.1745</b>	4.3832	
<b>P4</b>				<b>43.83225</b>		
<b>PV</b>		<b>2.869565</b>	<b>2.86956522</b>	<b>31.56522</b>		
<b>Price (P0)</b>	<b><u>\$ 37.30</u></b>					

The appropriate investment strategy for the BigBros Co.'s common stock is **NOT TO BUY** at this time. For those investors with BigBro's stock, they should **SELL**, since market price is expected to lower from \$45 to \$37.30 (intrinsic value).