Directions: This is an optional bonus quiz. If you choose to take it, it will replace your worse quiz score (assuming this isn’t your worst quiz score). If you choose to do this quiz you must hand it into Hawthorn 265 no later than Friday, April 3, 2015 at 4:45pm. Late Quizzes will NOT be accepted.

Please answer the following questions and make sure your answer are legible. If you don’t show work and/or I can’t follow it, I won’t give partial credit. Since this quiz is take home, you may use notes, but the only person you may talk to about this quiz is Jackie Kaminski, this includes in-person and digital communication.

1. I __________________________ certify that I have not discussed my work on this quiz with anyone (other than Jackie Kaminski). This includes in-person communication, electronic communication and all other forms of communication. I understand that violating this policy is considered Academic Dishonesty, and will be dealt with accordingly.

   Must Be Signed

   signature __________________________ date

2. (4 points) Boeing Co issued $1,000 par value bonds in February of 2003. The coupon rate is 6.125% with semiannual payments and a maturity date of February 15, 2033. The bonds are currently selling for $1352.20 (April 1, 2015).

(a) How much is the interest payments for this bond? $30.63
(b) What is the current yield of this bond? 4.53%
(c) Is this bond being sold at par, at a premium, or at a discount? Give one potential real world reason why the bond may be selling this way.

(You can make up a possible reason, you don’t have to do real world research.)

\[ I = PRT \quad \text{(Find int. Pmt Bond)} \]
\begin{align*}
\text{Find int. pmt} & \rightarrow I = \\
\text{Par value} & \rightarrow P = 1000 \\
\text{Coupon rate} & \rightarrow R = 0.06125 \\
\text{time between pmts} & \rightarrow T = \frac{1}{2} \text{ year} \\
I = \frac{1000 \times 0.06125 \times \frac{1}{2}}{100} = 30.63
\end{align*}

\[ I = 30.63 \]

\[ I = PRT \quad \text{(Find current yield Bond)} \]
\begin{align*}
\text{Interest pmt} & \rightarrow I = 30.63 \\
\text{Current selling price} & \rightarrow P = 1352.20 \\
\text{Find curr. yield} & \rightarrow R = ? \\
\text{Time between pmts} & \rightarrow T = \frac{1}{2} \text{ year} \\
30.63 & = 1352.20 \times \frac{R}{2} \\
\frac{30.63}{1352.20 \times \frac{1}{2}} & = R, \quad R = 0.0453039...
\end{align*}

\[ \text{Current Yield} 4.53\% \]

\[ \text{Bond is selling at a premium (above par value)} \]
- Because Boeing likely has a good credit rating
- Because similar corporate bonds have lower coupon rates
3. (2 points) Bradley and Brian are considering 2 investment options: The Boeing Co bonds from question 2 and savings account with 1% simple interest.
   (a) Bradley chose the Boeing Co Bonds. Give a likely reason for his choice.
   (b) Brian chose the savings account. Give a likely reason for his choice.
   Be sure to consider risk and potential returns to be made in your answers to this question.

   a) with a current yield (acts like simple interest rate) of 4.35%, Bradley could make more \$ \text{ on the Bond than the } 1\% \text{ simple interest of the savings account.}

   b) even though he stands to make less money, a savings account is safer (less risky), so there is (virtually) no risk of Brian losing his money. (Bradley has a higher risk of losing \$ \text{ on the Bond.)

4. (4 points) Jackie’s fake Mutual Fund has total assets of \$84,205,292, has 1,233,902 shares outstanding. Assume this is an open ended mutual fund with no load. You are also told that the fund’s assets are allocated 85% to Equities, 10% to Fixed Income and 5% to cash.
   (a) Based on asset allocation, is this a relatively risky mutual fund or a relatively conservative mutual fund? Explain/Justify.
   (b) What is the NAV per share for this Mutual Fund.
   (c) If you invest \$2000 in this mutual fund, how many new shares will be created?

   a) Since so much of the assets are in Risky Equities, and so little is in low-risk cash, this is a relatively Risky Mutual Fund.

   b) \[ \text{NAV} = \frac{\text{Total Assets}}{\text{Total # shares}} \]
   \[ \text{NAV} = \frac{84,205,292}{1,233,902} \]
   \[ \text{NAV} = \$68.243 \text{ per share} \]

   c) \[ \text{New shares Created} = \frac{\text{\$ invested}}{\text{NAV}} \]
   \[ \text{New shares} = \frac{2000}{68.243} \]
   \[ = 29.307 \text{ new shares created} \]
5. (2 points) Fidelity has Select Pharmaceuticals Portfolio (FPHAX) that contains stocks from pharmaceutical companies like Bristol Myers Squibb Co and Johnson & Johnson (among many many others). As of March 31, 2015 the NAV of the FPHAX mutual fund was $23.67. Three Years ago, the NAV was about $14.60. What is the average annual rate of return (CARG) for this mutual fund?

\[
i = \left( \frac{FV}{PV} \right)^{\frac{1}{n}} - 1
\]

**CARG Formula**

\[
FV = 23.67
\]
\[
PV = 14.60
\]
\[
n = 3
\]

\[
i = \left( \frac{23.67}{14.60} \right)^{\frac{1}{3}} - 1
\]

\[
i = 0.174758...
\]

\[
\text{CARG} = 17.48\%
\]

( so from March 2012 - March 2015,
money in this Fund grew like 17.40% Annually compounded)

6. (3 points) Barb and Bevin are considering two investments, the FPHAX mutual fund from question 5 and Stock in the pharmaceutical company Bristol Myers Squibb Co. Bristol Myers Squibb Co stock is currently selling for $63.99 a share. Three Years ago (April 2012) it was selling for $33.68 a share, meaning that the average annual rate of return on Bristol Myers Squibb Co stock over this period has been 23.85%.

(a) Barb chose the FPHAX mutual fund. Give a likely reason for her choice.

(b) Bevin chose the Bristol Myers Squibb Co stock. Give a likely reason for her choice.

(c) Who (Barb and/or Bevin) is guaranteed not to lose money with their investment?

*Be sure to consider risk and potential returns to be made in your answers to this question.*

a) even though she likely predicts her $ will grow more slowly with the Mutual Fund (17.48% CARG for mutual fund vs 23.85% w/ B-M-S stock) the Mutual Fund is less risky.

b) Bevin likely believes (assuming the stock performance remains the same) that she will make more $ w/ the stock 23.85% CARG vs 'only' 17.48% w/ the Mutual Fund.

c) Neither!!! it's possible to lose $ in both stocks & mutual funds.

you're less likely to lose $ in mutual funds than in stocks,]

[ but there's no guarantee that you won't lose $]