

# Fixed Income Readings for the Chartered Financial Analyst® Program Second Edition

CORRECTIONS as of 10/2005

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## Chapter 1:

### Page 6:

towards the bottom of the page Reads: “Europe-EMU: Australia, Belgium, ....”

Correction: “Australia” should be “Austria”

Should read: “Europe-EMU: Austria, Belgium, ....”

### Page 8:

The discussion of the impact on interest rates on the surplus should have been in terms of dollar duration and dollar liabilities. Hence correct the last three paragraphs on the page with the following: We can define the duration of liabilities as the responsiveness of the value of the liabilities to a 100 basis point change in interest rates. We define the dollar duration of assets and the liabilities in terms of a 100 basis point change in interest rates per \$100 present value. If the dollar duration of the assets is less than the dollar duration of the liabilities, the economic surplus will decrease if interest rates fall. For example, suppose that the current market value of the asset portfolio is equal to \$100 million and the present value of liabilities is \$90 million. Then the economic surplus is \$10 million. Suppose that the duration of the assets is 3 and the duration of the liabilities is 5. This means that the dollar duration per 100 basis point change in interest rates for the assets per \$100 of market value is \$3 and the dollar duration of the liabilities per \$100 present value is \$5. Consider the following two scenarios. In the first scenario, interest rates decline by 100 basis points. Because the dollar duration of the assets is \$3, the market value of the assets will increase by approximately \$3 million to \$103 million. The present value of the liabilities will also increase. Since the dollar duration of the liabilities is \$5, the present value of the liabilities will increase by approximately \$4.5 million to \$94.5 million. Thus, the economic surplus decreases from \$10 million to \$8.5 million as a result of a decline in interest rates. In the second scenario, assume that interest rates rise by 100 basis points. Because the dollar duration of the assets is \$3, the market value of the assets will decrease by approximately \$3 million to \$97 million. The value of the liabilities will also decrease. Since the dollar duration of the liabilities is \$5, the present value of the liabilities will decrease by \$4.5 million to \$85.5 million. The economic surplus therefore increases to \$11.5 million from \$10 million as a result of the rise in interest rates.

### Page 14:

Correct the following key point: “To properly assess the interest rate sensitivity of the economic surplus of an entity it is necessary to assess the duration and the convexity of both the assets and the liabilities.” To Correct the following two key points: To properly assess the interest rate sensitivity of the economic surplus of an entity it is necessary to assess the dollar duration and the convexity of both the assets and the liabilities.”

### Page 15:

Question 12. Replace question with: 12. Suppose that the present value of the liabilities of a British financial institution is £6 billion and the surplus is £8 billion. The duration of the liabilities is equal to 5. Suppose further that the portfolio of this financial institution includes only British government bonds and that the duration of the portfolio is 6.

- a. What is the market value of the bond portfolio?
- b. What is the dollar duration per £6 100 par value for the asset portfolio?
- c. What is the dollar duration per £6 100 par value for the liabilities?
- d. Suppose that interest rates increase by 50 basis points. What is the approximate new value for the surplus?
- e. Suppose that interest rates decrease by 50 basis points. What is the approximate new value for the surplus?

Page 17:

- a. The market value of the bond portfolio is £14 billion. (£14 billion assets minus £6 billion liabilities gives a surplus of £8 billion.)
- b. Since the duration of the assets is 6, then for a 100 basis point change in interest rates the change in the value of the asset portfolio will be approximately 6%. The dollar duration per £100 par value is then £6.
- c. A duration of 5 for the liabilities means that if interest rates change by 100 basis points, the present value of the liabilities will change by approximately 5%. Per £100 of present value, the liabilities will change by £5 and will be equal to the dollar duration.
- d. If interest rates increase by 100 basis points, because the market value of the assets is £14 billion and the dollar duration per £100 market value is \$3, the market value will decrease by approximately by £840 million. For a 50 basis point increase in rates, the market value of the assets will decrease by half that amount, £420 million. The present value of the liabilities will decrease by approximately £150 million for a 50 basis point change. Thus, a 50 basis point increase in interest rates decreases the assets by £420 million and decreases the liabilities by £150 million. The net effect on the surplus is a decline of £270 million. Since the initial surplus is £8 billion, the surplus, after a 50 basis point rate increase, would be £7.73 billion (£8 billion minus £270 million).
- e. If interest rates decrease by 50 basis points, the value of the assets will increase by £420 million and the value of the liabilities will increase by £150 million. Hence, the surplus will increase to £8.27 billion (£8 billion plus £270 million).

## **Chapter 2:**

Page 54:

answer to 12(g), 4th line from the top of the page:

Now reads: "gain is greater than the loss that would ..."

Correction: change "greater" to "less"

Should read: "gain is less than the loss that would ..."

## **Chapter 3:**

Page 65:

Exhibit 3. Delete the "%" sign in the column heads for "Spread Dur."

Page 90:

Fourth line in the paragraph following the table:

It reads "..... Suppose further that the funds are borrowed using a 3-month reverse repurchase agreement ..."

Delete the word "reverse"

so it should read: "..... Suppose further that the funds are borrowed using a 3-month repurchase agreement ..."

Page 93:

Question 8:

Change: “iii. at the horizon date, the credit spread for the this issuer declines by 200 basis points for all maturity.”

to

“iii. at the horizon date, the credit spread for the this issuer declines to 200 basis points for all maturity.”

Page 98:

Question 29, reads: “... purchased \$50 million of bonds with a duration of 5 via a 1-month reverse repo transaction.”

Delete the word “reverse” so it should read:

“... purchased \$50 million of bonds with a duration of 5 via a 1-month repo transaction.”

## **Chapter 8:**

Page 284:

In the sentence following equation (3), it says that the “...sum of the weights is equal to 1...” Change to: “...sum of the weights is equal to T...”

## **Chapter 9:**

Page 284:

fourth line from the bottom. change 90.75 to 103.35.