Question #1 of 80

The active bond portfolio management strategy of rolling down the yield curve is *most consistent* with:

A) segmented markets theory.

B) pure expectations theory.

C) liquidity preference theory.

Explanation

Under the liquidity preference theory, investors would earn an extra return for investing in longer-maturity bonds rather than in shorter-maturity bonds. Such extra positive risk-premium linked to maturity of the bonds is absent in the pure expectations and the market segmentation theory.

(Study Session 12, Module 34.2, LOS 34.e)

Related Material

SchweserNotes - Book 4

Question #2 of 80

Assume that the interest rates in the future are not expected to differ from current spot rates. In such a case, the liquidity premium theory of the term structure of interest rates projects that the shape of the yield curve will be:

A) upward sloping.

B) variable.

C) downward sloping.

Explanation

The liquidity theory holds that investors demand a premium to compensate them to interest rate exposure and the premium increases with maturity. When the yield curve under pure expectations is flat (i.e., interest rates in future are expected to be same as current rates), addition of liquidity premium (which increases with maturity) would result in an upward sloping yield curve.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #3 of 80

A 2-year $1,000 par, 5% (semi-annual pay) Mexa-corp bond has a Z-spread of 45bps. Using the following spot curve, compute the invoice price of the bond.

Maturity	0.50	1.00	1.50	2.00
Spot rates	4.50%	5%	5.25%	5.5%

A) $993.45

B) $982.65

C) $956.32

Explanation

Add the Z-spread to each of the spot rates to discount the bond's cash flows

$$\frac{25}{\left(1+\frac{0.045+0.0045}{2}\right)}+\frac{25}{\left(1+\frac{0.05+0.0045}{2}\right)^2}+\frac{25}{\left(1+\frac{0.0525+0.0045}{2}\right)^3}+\frac{1025}{\left(1+\frac{0.055+0.0045}{2}\right)^4}=\$982.$$

(Study Session 12, Module 34.4, LOS 34.h)

Related Material

SchweserNotes - Book 4

Question #4 of 80

Suppose that the short-term and long-term rates decrease by 75bps while the intermediate-term rates decrease by 30bps. The movement in yield curve is *best* described as involving changes in the:

A) level only.

B) curvature only.

C) level and curvature.

Explanation

The decrease in short-term and long-term rates is an indication of change in level of interest rates. Because intermediate-term rates change differently than the short-term and long-term rates, there is also a change in the curvature of the yield curve.

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #5 of 80

Suppose the government spot rate curve is flat at 3%. An active manager is planning on purchasing a five-year government bond at par. The realized return on this bond will *most likely* be:

A) more than 3% if the bond is held to maturity while the yield curve remains flat but decreases below 3%.

B) 3% if the bond is held to maturity regardless of the shape of the yield curve.

C) 3% if the bond is held to maturity provided that the yield curve remains flat at 3%.

Explanation

There is no price risk for a default-free bond held to maturity. However, there is reinvestment risk for the coupon payments received during the life of the bond (in this instance, the bond is a par bond and hence has the same coupon rate as its yield). If the yield curve shifts down, the reinvestment rate would be lower and the realized holding period return would be lower than 3%.

(Study Session 12, Module 34.1, LOS 34.a)

Related Material

SchweserNotes - Book 4

Question #6 of 80

Use the following spot rate curve to answer this question:

Maturity	1	2	3
Spot rates	5%	5.5%	6%

The price of a 1-year $1 par, zero-coupon bond to be issued in two years is *closest* to:

A) $0.8396

B) $0.9434

C) $0.9345

Explanation

$f(2,1) = (1+S_3)^3/(1+S_2)^2 - 1 = 7.01\%$

$F_{(2,1)} = 1/[1+ f(2,1)] = 1/(1.0701) = \$0.9345$

(Study Session 12, Module 34.1, LOS 34.b)

Related Material

SchweserNotes - Book 4

Question #7 of 80

7.5%, 15-year, annual pay option-free Xeleon Corp bond trades at a market price of $95.72 per $100 par. The government spot rate curve is flat at 5%.

The Z-spread on Xeleon Corp bond is *closest* to:

A) 300 bps

B) 325 bps

C) 250 bps

Explanation

Since the spot rate curve is flat, we can simply compute the yield on the bond and subtract the spot rate from it to obtain the Z-spread.

PV = - 95.72; N = 15; PMT = 7.50; FV = 100; I/Y=?=8%.

Z-spread = 8% - 5% = 3% or 300bps

(Study Session 12, Module 34.4, LOS 34.h)

Related Material

SchweserNotes - Book 4

Question #8 of 80

Jill Sebelius, editor-in-chief of a monthly interest-rate newsletter uses the following model to forecast short-term interest rates:

$$dr = a(b - r)\,dt + \sigma\sqrt{r}dz$$

For the current newsletter, Sebelius has issued the following expectations:

a=0.40, b = 3%, r = 2%.

Sebelius's model is *most accurately* described as the:

A) Cox-Ingersoll-Ross model.

B) Ho-Lee model.

C) Vasicek model.

Explanation

The model given is an example of the Cox-Ingersoll-Ross model which differs from the Vasicek model by including the square root of current level of short-term interest rates in the stochastic part of the equation.

(Study Session 12, Module 34.6, LOS 34.k)

Related Material

SchweserNotes - Book 4

Question #9 of 80

Which of the following *best* describes key rate duration? Key rate duration is determined by:

A) changing the yield of a specific maturity.

B) shifting the whole yield curve in a parallel manner.

C) changing the curvature of the entire yield curve.

Explanation

Key rate duration can be defined as the approximate percentage change in the value of a bond or bond portfolio in response to a 100 basis point change in a key rate, holding all other rates constant, where every security or portfolio has a set of key rate durations, one for each key rate maturity point.

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #10 of 80

Jorgen Welsher, CFA obtains the following quotes for zero coupon government bonds all with a par value of $100.

Type of Price	Delivery (years)	Maturity (years)	Price
Spot	0	3	$91.51
Forward	2	3	$94.55
Spot	0	2	$92.45

Welsher can earn arbitrage profits by:

A) buying the 2-year bond in the spot market, going long the forward contract and selling the 3-year bond in the spot market.

B) selling the 2-year bond in the spot market, going short the forward contract and buying the 3-year bond in the spot market.

C) buying the 2-year bond in the spot market, going short the forward contract and selling the 3-year bond in the spot market.

Explanation

$F_{(2,1)} = P_3/P_2 = \$98.98$ but is quoted at $94.55 and hence is cheap – buy it. A combination of a long position in the 2-year spot market, rolled over for 1 year at a locked-in forward rate (i.e., a long position in forward), would generate a return higher than the quoted 3-year spot rate.

(Study Session 12, Module 34.1, LOS 34.b)

Related Material

SchweserNotes - Book 4

Question #11 of 80

Joe McBath makes the following two statements:

Statement 1: The swap rate curve indicates credit spread over government bond yield.

Statement 2: The swap rate curve indicates the premium for time value of money at different maturities.

Joseph is *most likely* correct with regard to:

A) Statement 2 but not statement 1.

B) Statement 1 but not statement 2.

C) Both statements.

Explanation

Swap rates are not spreads and hence the swap rate curve does not indicate credit spread. The swap rate curve can be used instead of government bond yield curve to indicate premium for time value of money.

(Study Session 12, Module 34.3, LOS 34.f)

Related Material

SchweserNotes - Book 4

Question #12 of 80

What are the implications for the shape of the yield curve according to the liquidity theory? The yield curve:

A) may have any shape. ✓

B) is always flat. ✗

C) must be upward sloping. ✗

Explanation

The liquidity theory holds that investors demand a premium to compensate them to interest rate exposure and the premium increases with maturity. Even after adding the premium to a steep downward sloping yield curve the result will still be downward sloping.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #13 of 80

If the 2-year spot rate is 4% and 1-year spot rate is 7%, the one year forward rate one year from now is *closest* to:

A) 3% ✗

B) 1% ✓

C) 2% ✗

Explanation

$(1+S_2)^2 = (1+s_1)[1+f(1,1)]$

$f(1,1) = (1.04)^2/(1.07) - 1 = 0.0108 = 1.08\%$

(Study Session 12, Module 34.1, LOS 34.a)

Related Material

SchweserNotes - Book 4

Question #14 of 80

Jill Sebelius, editor-in-chief of a monthly interest-rate newsletter uses the following model to forecast short-term interest rates:

$$dr = a(b - r)\,dt + \sigma\sqrt{r}dz$$

For the current newsletter, Sebelius has issued the following expectations:

a=0.40, b = 3%, r = 2%.

According to the model used by Sebelius, volatility in the short-term in interest rate is *most likely*:

A) independent of the current level of the short-term interest rate. ✗

B) negatively related to the current level of the short-term interest rate. ✗

C) positively related to the current level of the short-term interest rate. ✓

Explanation

Under the Cox-Ingersoll-Ross model, the random or stochastic component incorporates the square root of current level of interest rate. Hence the higher the current level of interest rates, the higher the volatility of interest rates.

(Study Session 12, Module 34.6, LOS 34.k)

Related Material

SchweserNotes - Book 4

Question #15 of 80

An analyst has a list of key rate durations for a portfolio of bonds. If only one interest rate on the yield curve changes, the effect on the value of the bond portfolio will be the change of that rate multiplied by the:

A) weighted average of the key rate durations. ✗

B) key rate duration associated with the maturity of the rate that changed. ✓

C) median of the key rate durations. ✗

Explanation

This is how an analyst uses key rate durations: For a given change in the yield curve, each rate change is multiplied by the associated key rate duration. The sum of those products gives the change in the value of the portfolio. If only the five-year interest rate changes, for example, then the effect on the portfolio will be the product of that change times the five-year key rate duration.

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #16 of 80

According to the pure expectations theory, how are forward rates interpreted? Forward rates are:

A) expected future spot rates. ✓

B) expected future spot rates if the risk premium is equal to zero. ✗

C) equal to futures rates. ✗

Explanation

The pure expectations theory, also referred to as the unbiased expectations theory, purports that forward rates are solely a function of expected future spot rates. This implies that long-term interest rates represent the geometric mean of future expected short-term rates, nothing more.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #17 of 80

Assuming the pure expectations theory is correct, an upward sloping yield curve implies:

A) interest rates are expected to decline in the future.

B) interest rates are expected to increase in the future.

C) longer-term bonds are riskier than short-term bonds.

Explanation

The yield curve slopes upward because short-term rates are lower than long-term rates. Since market rates are determined by supply and demand, it follows that investors (demand side) expect rates to be higher in the future than in the near-term.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #18 of 80

The following are some of the current par rates:

Year	Par rate
1	1.00%
2	2.00%
3	3.00%
4	4.00%
5	5.00%

Using bootstrapping, the 2-year spot rate is *closest* to:

A) 2.25%

B) 2.01%

C) 1.50%

Explanation

S_1 = 1.00% given

For a 2-year bond,

$$100 = \frac{2.00}{(1.01)} + \frac{102}{(1+S_2)^2}$$

$$98.01 = \frac{102}{(1+S_2)^2}$$

$(1+S_2)^2 = 102/98.01 = 1.0407$

$(1+S_2) = 1.0201$

S_2 = 2.01%

(Study Session 12, Module 34.1, LOS 34.c)

Related Material

SchweserNotes - Book 4

Question #19 of 80

The following are some of the current par rates:

Year	Par rate
1	5.00%
2	6.00%
3	7.00%

Using bootstrapping, the 3-year spot rate is *closest* to:

A) 6.93%

B) 7.09%

C) 6.67%

Explanation

S_1 = 5.00% given

For the 2-year par bond,

$$100 = \frac{6.00}{(1.05)} + \frac{106}{(1+S_2)^2}$$

$$94.29 = \frac{106}{(1+S_2)^2}$$

$(1+S_2)^2 = 106/95.24 = 1.1242$

$(1+S_2) = 1.0603$

$S_2 = 6.03\%$

For the 3-year par bond,

$$100 = \frac{7.00}{(1.05)} + \frac{7.00}{(1.0603)^2} + \frac{107.00}{(1+S_3)^3}$$

$$87.11 = \frac{107.00}{(1+S_3)^3}$$

$(1+S_3)^3 = 107/87.11 = 1.2283$

$(1+S_3) = 1.0709$ or $S_3 = 7.09\%$

(Study Session 12, Module 34.1, LOS 34.c)

Related Material

SchweserNotes - Book 4

Question #20 of 80

For an interest rate swap, the swap spread is the difference between the:

A) swap rate and the corresponding Treasury rate. ✓

B) fixed rate and the floating rate in a given period. ✗

C) average fixed rate and the average floating rate over the life of the contract. ✗

Explanation

The swap spread is the swap rate minus the corresponding Treasury rate.

(Study Session 12, Module 34.4, LOS 34.g)

Related Material

SchweserNotes - Book 4

Question #21 of 80

Prices of zero-coupon, $1 par bonds is shown below:

Maturity (years)	Price
1	$0.9615
2	$0.9070
3	$0.8396
4	$0.7629

The default risk of these bonds is similar to the default risk of surveyed banks based on which the swap rate is determined.

Government spot rate curve is given below:

Maturity (years)	Rate
1	3.05%
2	4.10%
3	5.25%
4	6.45%

The three-year swap spread is closest to:

A) 78 bps. ✗

B) 67 bps. ✓

C) 110 bps. ✗

Explanation

The 3-year swap fixed rate SFR3 is determined by solving:

$SFR_3 (P_1 + P_2 + P_3) + P_3 = 1$ or $SFR_3 (0.9615 + 0.9070 + 0.8396) + 0.8396 = 1$

$SFR_3 (2.7081) = 0.1604$

$SFR_3 = 0.1604/2.7081 = 5.92\%$

Swap spread = $SFR_3 - S_3 = 5.92\% - 5.25\% = 0.67\%$ or 67 bps

(Study Session 12, Module 34.4, LOS 34.g)

Related Material

SchweserNotes - Book 4

Question #22 of 80

It is now January 1, 20x7. The one-year spot rate now is exactly equal to the one-year forward rate for a loan in one year as of January 1, 20x6. The current forward price of $1 par, zero-coupon bond for delivery on January 1, 20x8 will *most likely* be:

A) lower than it was on January 1, 20x6.

B) the same as it was on January 1, 20x6.

C) higher than it was on January 1, 20x6.

Explanation

If the spot rates evolve exactly as indicated by the forward curve, the forward price would remain unchanged.

(Study Session 12, Module 34.2, LOS 34.d)

Related Material

SchweserNotes - Book 4

Question #23 of 80

A swap spread is the difference between:

A) the fixed-rate and floating-rate payment rates at the inception of the swap.

B) the fixed rate on an interest rate swap and the rate on a Treasury bond of maturity equal to that of the swap.

C) LIBOR and the fixed rate on the swap.

Explanation

A swap spread is the difference between the fixed rate on an interest rate swap and a Treasury bond of maturity equal to that of the swap.

(Study Session 12, Module 34.4, LOS 34.g)

Related Material

SchweserNotes - Book 4

Question #24 of 80

If the spot curve is upward sloping, the forward curve is *most likely* to be:

A) steeper than the spot curve and above the spot curve. ✓

B) parallel to the spot curve and below the spot curve. ✗

C) parallel to the spot curve and above the spot curve. ✗

Explanation

When the spot curve is upward sloping, the forward curve will be lie above the spot curve and will also be upward sloping with a steeper slope.

(Study Session 12, Module 34.1, LOS 34.a)

Related Material

SchweserNotes - Book 4

Question #25 of 80

Which one of the following actions is *most consistent* with the strategy of riding an upward sloping the yield curve?

Buying bonds with a maturity:

A) equal to the investor's horizon. ✗

B) longer than than the investor's horizon. ✓

C) shorter than the investor's horizon. ✗

Explanation

If the yield curve is upward sloping and is expected to remain the same, higher returns can be obtained by riding the yield curve, i.e., buying bonds with a longer maturity than the investor's horizon.

(Study Session 12, Module 34.2, LOS 34.e)

Related Material

SchweserNotes - Book 4

Question #26 of 80

When the yield curve is downward sloping, the TED spread is *most likely* to be:

A) positive. ✓

B) negative. ✗

C) zero. ✗

Explanation

TED spread is defined as Libor minus T-bill yield and is expected to be positive to reflect the higher credit risk implied in Libor relative to T-bills. This would hold true regardless of the slope of the yield curve.

(Study Session 12, Module 34.4, LOS 34.i)

Related Material

SchweserNotes - Book 4

Question #27 of 80

Jim Malone, CIO of Sigma bond fund had a successful track record of investing in investment grade bonds. Recently though, Sigma has been lagging its peers because Malone refuses to reduce the duration of the portfolio by purchasing short-term bonds for the fund. Malone's actions are *most consistent* with:

A) Liquidity preference theory. ✗

B) Preferred habitat theory. ✗

C) Segmented markets theory. ✓

Explanation

Under segmented markets theory investors in one maturity segment of the market will not move into any other maturity segments.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #28 of 80

Credit risk in the banking system is most accurately captured by the:

A) 10-year swap spread. ✗

B) TED spread. ✓

C) I-spread. ✗

Explanation

Comparing the TED spread with the 10-year swap spread, the TED spread more accurately reflects the risk in the banking system, while the 10-year swap spread mostly reflects differing supply and demand conditions. An I-spread refers to a bond yield net of the swap rate of the same maturity.

(Study Session 12, Module 34.4, LOS 34.i)

Related Material

SchweserNotes - Book 4

Question #29 of 80

Compared to a yield curve based on government bonds, swap rate curves are:

A) more comparable across countries and have a smaller number of yields at various maturities. ✗

B) more comparable across countries and have a greater number of yields at various maturities. ✓

C) less comparable across countries and have a greater number of yields at various maturities. ✗

Explanation

Swap rate curves are typically determined by dollar denominated borrowing based on LIBOR. These rates are determined by market participants and are not regulated by governments. Swap rate curves are not affected by technical market factors that affect the yields on government bonds. Swap rate curves are also not subject to sovereign credit risk (potential government default on debt) that is unique to government debt in each country. Thus swap rate curves are more comparable across countries because they reflect similar levels of credit risk. There is also a wider variety of maturities available for swap rate curves, relative to a yield curve based on US Treasury securities, which has only four on-the-run maturities of two years or more. Swap rate curves typically have 11 quotes for maturities between 2 and 30 years.

(Study Session 12, Module 34.3, LOS 34.f)

Related Material

SchweserNotes - Book 4

Question #30 of 80

The swap spread will increase with:

A) an increase in the credit spread embedded in the reference.

B) the variability of interest rates.

C) a deterioration in one party's credit.

Explanation

The swap spread is the spread between the fixed-rate on a market-rate swap and the Treasury rate on a similar maturity note/bond. Since the fixed rate is calculated from the reference rate yield curve, it is increased as the credit spread embedded in the reference rate yield curve increases.

(Study Session 12, Module 34.4, LOS 34.g)

Related Material

SchweserNotes - Book 4

Question #31 of 80

During the recent credit crises in the country of Maltovia, several money market funds reported large losses. Subsequently, the Maltovian regulatory body imposed strict restrictions on maturity of securities that money market funds could invest in. The reaction of Maltovian regulatory body was *most likely* based on a belief in:

A) preferred habitat theory

B) market segmentation theory.

C) local expectations theory.

Explanation

Money market funds generally invest in short-term securities. Their inclination to chase higher yields in the longer maturity spectrum is consistent with the preferred habitat theory whereby investors will leave their preferred habitat if they are compensated with higher returns. If Market segmentation theory held, investors would not have left their market segment and therefore no regulatory action would be necessary.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #32 of 80

Which of the following *most* accurately explains the "break-even-rate" interpretation of forward rates? The forward rate is the rate that will make an investor indifferent between investing:

A) now or at a forward time. ✗

B) investing at the spot or forward interest rate. ✗

C) for the full investment horizon, or for part of it, and then rolling over the proceeds for the balance of the investment horizon at the forward rate. ✓

Explanation

The pure expectations theory can be explained using a "break-even rate" line of reasoning. The break even rate is the forward rate that leaves investors indifferent between investing for the full term of their investment horizon or investing in part of the horizon and rolling the investment over at the "break-even" forward rate for the remainder of the term.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #33 of 80

The *least* important factor explaining the changes in the shape of the yield curve is:

A) Curvature ✓

B) Steepness ✗

C) Level ✗

Explanation

Changes in the shape of yield curve is explained by (in order of importance): level, steepness and curvature.

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #34 of 80

Which of the following is NOT a reason why market participants prefer the swap rate curve over a government bond yield curve? The swap market:

A) reflects sovereign credit risk. ✓

B) is free of government regulation. ✗

C) it is not affected by technical factors. ✗

Explanation

Swap rate curves are typically determined by dollar denominated borrowing based on LIBOR. These rates are determined by market participants and are not regulated by governments. Swap rate curves are not affected by technical market factors that affect the yields on government bonds. The swap rate curve is also not subject to sovereign credit risk (potential government default on debt) that is unique to each country.

(Study Session 12, Module 34.3, LOS 34.f)

Related Material

SchweserNotes - Book 4

Question #35 of 80

Volatility in long-term rates is *most likely* related to uncertainty about:

A) fiscal policy.

B) central bank actions.

C) the real economy and inflation.

Explanation

Volatility in long-term rates is most likely linked to uncertainty about the real economy and inflation, whereas volatility in short-term rates is most likely linked to monetary policy.

(Study Session 12, Module 34.6, LOS 34.m)

Related Material

SchweserNotes - Book 4

Question #36 of 80

The liquidity theory of the term structure of interest rates is a variation of the pure expectations theory that explains why:

A) the yield curve usually slopes upward.

B) the yield curve usually slopes downward.

C) duration is an imprecise measure.

Explanation

The pure expectations hypothesis says that the shape of the yield curve only reflects expectations of future short-term rates. Yet, the yield curve generally slopes upward. The liquidity theory says that the yield curve incorporates expectations of short-term rates; however, the tendency for the yield curve to slope upward reflects the demand for a higher return to compensate investors for the extra interest rate risk associated with bonds with longer maturities.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #37 of 80

Volatility in short-term rates is *most likely* related to uncertainty about:

A) monetary policy.

B) the real economy.

C) inflation.

Explanation

Volatility in short-term rates is most likely linked to monetary policy, whereas volatility in long-term rates is most likely linked to uncertainty about the real economy and inflation.

(Study Session 12, Module 34.6, LOS 34.m)

Related Material

SchweserNotes - Book 4

Question #38 of 80

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her $25 million bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	Portfolio 1	Portfolio 2	Portfolio 3
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two advantages to using the swap rate curve:

Statement 1: The swap rate curve typically has yield quotes at 11 maturities between 2 and 30 years. The U.S. government bond yield curve, however, has fewer on-the-run issues trading at maturities of at least two years.

Statement 2: Swap curves across countries are more comparable than government bond curves because they reflect similar levels of credit risk.

Berg also estimates the nominal spread, Z-spread, and option-adjusted spread (OAS) for the Steigers Corporation callable bonds in Portfolio 2. The OAS is estimated from a binomial interest rate tree. The results are shown in Exhibit 2.

Exhibit 2: Spread Measures for Steigers Corporation Callable Bonds

	Spread Measure	Benchmark
Nominal spread	25 basis points	Steigers Corp yield curve
Z-spread	35 basis points	Steigers Corp spot rate curve
OAS	−20 basis points	Steigers Corp spot rate curve
Nominal spread	120 basis points	Treasury yield curve
OAS	40 basis points	Treasury spot rate curve

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

If the 5- and 10-year key rates increase by 20 basis points, but the 2- and 20-year key rates remain unchanged:

A) Portfolio 2 will experience the best price performance.

B) all three portfolios will experience the same price performance.

C) Portfolio 1 will experience the best price performance.

Explanation

The exposure of each portfolio to changes in the 5- and 10-year rates are equal to the sum of the 5- and 10-year key rate durations:

portfolio 1 exposure = 0.20 + 0.15 = 0.35

portfolio 2 exposure = 0.40 + 4.00 = 4.40

Portfolio 2 has the largest exposure, and portfolio 1 has the smallest exposure. If the 5- and 10-year key rates increase, portfolio 1 will fall by the smallest amount and will experience the best price performance (i.e., the smallest decrease in value).

You can confirm this by doing the calculations for a 20 basis point increase:

% change in portfolio 1	= (−0.20 × 0.002 × 100) + (−0.15 × 0.002 × 100)
	= (−0.35 × 0.002 × 100) = −0.07%
% change in portfolio 2	= (−0.40 × 0.002 × 100) + (−4.00 × 0.002 × 100)
	= (−4.40 × 0.002 × 100) = −0.88%

(Study Session 12, Module 34.6, LOS 34.m)

Related Material

SchweserNotes - Book 4

Question #39 of 80

A portfolio manager who believed in the liquidity premium theory would expect:

A) long-term securities to offer higher returns than short-term securities.

B) long-term rates to be higher than investors' expectations of future rates, because of the liquidity premium.

C) short-term rates to be lower than investors' expectations of short-term rates, because of the liquidity premium.

Explanation

The liquidity theory of the term structure proposes that forward rates reflect investors' expectations of future rates plus a liquidity premium to compensate them for exposure to interest rate risk, and this liquidity premium is positively related to maturity. The implication of the liquidity theory is that forward rates, since they include a liquidity premium, are a biased estimate of the market's expectation of future spot rates.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #40 of 80

Under the liquidity preference theory, expected future spot rates will *most likely* be:

A) More than the current forward rate.

B) Equal to the current forward rate.

C) Less than the current forward rate.

Explanation

Existence of a liquidity premium under the liquidity preference theory implies that the current forward rate is an upwardly biased estimate of the future spot rate.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #41 of 80

Government spot rate curve is given below:

Maturity (years)	Rate
1	3.05%
2	4.10%
3	5.25%
4	6.45%

The swap fixed rate for a period of 2 years is *closest* to:

A) 4.98%

B) 4.08%

C) 4.75%

Explanation

SFR_2 can be computed as:

$$SFR_2 / (1+S_1) + SFR2/ (1+S_2)^2 + 1 / (1+S_2)^2 = 1$$

$$SFR_2 / (1.0305) + SFR2 / (1.041)^2 + 1 / (1.041)^2 = 1$$

$$SFR_2 / (1.0305) + SFR2 / (1.0837) + 1 / (1.0837) = 1$$

$$SFR_2 / (1.0305) + SFR2 / (1.0837) = 0.07722$$

$$SFR_2 (1/(1.0305) +1 / (1.0837)) = 0.07722$$

$$SFR_2 (1.8932) = 0.07722$$

$$SFR_2 = 0.07722/1.8932 = 0.0408 \text{ or } 4.08\%$$

(Study Session 12, Module 34.4, LOS 34.g)

Related Material

SchweserNotes - Book 4

Question #42 of 80

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her equally-weighted bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	Portfolio 1	Portfolio 2	Portfolio 3
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two advantages to using the swap rate curve:

Statement 1: The swap rate curve typically has yield quotes at more maturities than government bond markets have.

Statement 2: Retail banks are more likely to use the government spot curve as a benchmark as they have minimal exposure to swap markets.

Berg also estimates the nominal spread, Z-spread, and option-adjusted spread (OAS) for the Steigers Corporation callable bonds in Portfolio 2. The OAS is estimated from a binomial interest rate tree. The results are shown in Exhibit 2.

Exhibit 2: Spread Measures for Steigers Corporation Callable Bonds

	Spread Measure	*Benchmark*
Nominal spread	25 basis points	Steigers Corp yield curve
Z-spread	35 basis points	Steigers Corp spot rate curve
OAS	−20 basis points	Steigers Corp spot rate curve
Nominal spread	120 basis points	Treasury yield curve
OAS	40 basis points	Treasury spot rate curve

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

If the spot-rate curve experiences a parallel downward shift of 50 basis points:

A) Portfolio 1 will experience the best price performance.

B) all three portfolios will experience the same price performance.

C) Portfolio 3 will experience the best price performance.

Explanation

The sum of a portfolio's key rate durations is the effective duration of the portfolio. Each of the portfolios has an effective duration of five, so a parallel shift in the yield curve will have the same effect on each portfolio, and each will experience the same price performance.

(Study Session 12, Module 34.6, LOS 34.m)

Related Material

SchweserNotes - Book 4

Question #43 of 80

According to the liquidity theory, how are forward rates interpreted? Forward rates are:

A) expected future spot rates.

B) equal to futures rates.

C) expected future spot rate plus a rate exposure premium.

Explanation

The liquidity theory of the term structure proposes that forward rates reflect investors' expectations of future rates plus a liquidity premium to compensate them for exposure to interest rate risk, and this liquidity premium is positively related to maturity. The implication of the liquidity theory is that forward rates are a biased estimate of the market's expectation of future rates, since they include a liquidity premium.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #44 of 80

Don McGuire, fixed income specialist at MCB bank makes the following statement: "In the very short-term, the expected rate of return from investing in any bond, including risky bonds, is the risk-free rate of return".

McGuire's statement is *most* consistent with:

A) unbiased expectations theory.

B) liquidity preference theory.

C) local expectations theory.

Explanation

Local expectations theory asserts that in the very short term, the expected return for every bond is the risk-free rate but does not extend the risk-neutrality assumption to every maturity strategy like the unbiased expectations theory.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #45 of 80

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her $25 million bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	Portfolio 1	Portfolio 2	Portfolio 3
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two advantages to using the swap rate curve:

Statement 1:	The swap rate curve typically has yield quotes at 11 maturities between 2 and 30 years. The U.S. government bond yield curve, however, has fewer on-the-run issues trading at maturities of at least two years.
Statement 2:	Swap curves across countries are more comparable than government bond curves because they reflect similar levels of credit risk.

Berg also estimates the nominal spread, Z-spread, and option-adjusted spread (OAS) for the Steigers Corporation callable bonds in Portfolio 2. The OAS is estimated from a binomial interest rate tree. The results are shown in Exhibit 2.

Exhibit 2: Spread Measures for Steigers Corporation Callable Bonds

	Spread Measure	Benchmark
Nominal spread	25 basis points	Steigers Corp yield curve
Z-spread	35 basis points	Steigers Corp spot rate curve
OAS	−20 basis points	Steigers Corp spot rate curve
Nominal spread	120 basis points	Treasury yield curve
OAS	40 basis points	Treasury spot rate curve

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

Are the two observations Berg writes down after the fixed income conference advantages to using the swap rate curve as a benchmark instead of a government bond curve?

A) Both statements are advantages.

B) Only Statement 2 is an advantage.

C) Only Statement 1 is an advantage.

Explanation

Swap rates are fixed rates on plain-vanilla interest rate swaps. The swap rate curve (also known as the LIBOR curve) is the series of swap rates quoted by swap dealers over maturities extending from 2 to 30 years. Both of Berg's observations are advantages to using the swap rate curve instead of a government bond curve as a benchmark rate curve.

(Study Session 12, Module 34.3, LOS 34.f)

Related Material

SchweserNotes - Book 4

Question #46 of 80

Which of the following *most accurately* explains the "locked-in-rate" interpretation of forward rates? The forward rate allows an investor to lock in:

A) a coupon rate for the current period.

B) an interest rate for some future period.

C) a coupon rate for some future period.

Explanation

The pure expectations theory can be explained using a "locked-in-rate" line of reasoning, whereby forward rates are interpreted as the rate that can be "locked in" for some future period.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #47 of 80

Martha Garret, CFA, manages fixed-income portfolios for Jones Brothers, Inc. (JBI). JBI has been in the portfolio management business for over 23 years and provides investors with access to actively managed equity and fixed-income portfolios. All of JBI's fixed-income portfolios are constructed using U.S. debt instruments. Garret's primary portfolio responsibilities are the Quasar Fund and the Nova Fund, both of which are long fixed-income portfolios consisting of Treasury securities in all maturity ranges. The Quasar Fund holdings as of March 15 are provided in Exhibit 1. A comparison of key rate durations for the Quasar Fund and Nova Fund is provided in Exhibit 2.

Exhibit 1: Quasar Fund

Bond	Maturity (years)	Coupon	Yield	Par Value	Market Value	Duration
A	2	5.0%	5.0%	4,000,000	4,000,000	1.86
B	5	4.5%	6.0%	3,500,000	3,278,851	4.32
C	15	8.0%	7.0%	2,750,000	3,000,468	8.90
D	30	6.5%	4.0%	6,450,000	9,238,340	15.90

Exhibit 2: Key Rate Durations for Quasar Fund & Nova Fund

Fund	Maturity (years)			
	2	5	15	30
Quasar Fund	0.90	1.20	1.80	6.10
Nova Fund	0.40	2.50	3.40	1.10

Of particular importance to Garret and her colleagues is the degree of interest rate risk exposure unique to each portfolio under JBI's management. Driving the increased awareness of the portfolios' interest rate exposure is the double-digit growth in assets under management that JBI's fixed-income portfolios have experienced in the past five years. Interest in the company's fixed income portfolios continues to grow and as a result, all portfolio managers are required to attend weekly meetings to discuss key portfolio risk factors. At the last meeting, Miranda Walsh, a principal at JBI, made the following comments:

> "The variance of daily interest rate changes has been trending higher over the past three months, leading us to believe that a period of high volatility is approaching in the next 12 to 18 months. However, the reliability is questionable because the volatility estimates were derived using an option pricing model, which assumes constant interest rates."
>
> "Also, the Treasury spot rate curve currently has a similar shape to the yield curve on Treasury coupon securities, which according to the market segmentation theory of interest rate term structure, indicates a relatively high level of demand from investors for intermediate term securities. Overzealous trading by investors unwilling to move into other maturity ranges may create mispricing and opportunities for arbitrage."

After the meeting, Walsh and JBI's other principals met to discuss a new international portfolio opportunity. At Walsh's suggestion, the principals selected Garret as the lead portfolio manager for the new fund, which will be titled the Atlantic Fund. One of the other portfolio managers, Greg Terry, CFA, suggested to Garret that she utilize the LIBOR swap curve as a benchmark for the Atlantic fund rather than using local government yield curves. Terry justifies his suggestion by claiming that "the lack of government regulation in the swap market makes swap rates and curves directly comparable between different countries despite fewer maturity points with which to construct the curve as compared to a government yield curve. Furthermore, credit risk in the swap curves of various countries is similar, thus avoiding the

complications associated with different levels of sovereign risk embedded in government yield curves." Intrigued by the idea of using the swap curve, Garret has her assistant begin gathering a range of current and forward LIBOR rates.

Which of the following factors would have the most explanatory power for the historical returns of the Quasar Fund? Changes in the:

A) slope of the yield curve. ✗

B) curvature of the yield curve. ✗

C) level of interest rates. ✓

Explanation

Research conducted by Litterman and Scheinkman indicated that changes in the level of interest rates had the most explanatory power for returns on Treasury securities. Because the Quasar fund is composed of Treasuries of various maturities, Litterman and Scheinkman's research would be applicable.

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #48 of 80

If the liquidity preference hypothesis is true, what shape should the term structure curve have in a period where interest rates are expected to be constant?

A) Flat. ✗

B) Upward sloping. ✓

C) Downward sloping. ✗

Explanation

The liquidity theory holds that investors demand a premium to compensate them for interest rate exposure and the premium increases with maturity. Add this premium to a flat curve and the result is an upward sloping yield curve.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

James Wallace, CFA, is a fixed income fund manager at a large investment firm. Each year, the firm recruits a group of new college graduates in the spring to enter in the firm's management training program. The program is a rigorous six-month course that exposes every candidate to each of the different departments within the firm. After successfully completing the six-month training period, candidates then receive offers for employment in one of the departments within the investment firm. Recently, Wallace was selected by his boss to teach the fixed income portion of the firm's training program. He will be able to hold several two-hour sessions with the new hires over a two-week time period, during which he is expected to instruct the trainee's on all aspects of fixed income analysis. These sessions serve as preparation for the trainees to be able to complete a month long rotation on the fixed income trading desk.

His first few sessions will cover the core concepts of fixed income investing. Wallace believes that in order to fully grasp the more complicated concepts of fixed income analysis, the new hires must first begin by having a complete knowledge of the term structure and the volatility of interest rates. The new hires each have different educational backgrounds and

varying amounts of work experience, so Wallace decides to begin with the most very basic concepts. He wants to start by teaching the various theories of the term structure of interest rates, and the implications of each theory for the shape of the Treasure yield curve. To evaluate the trainees' understanding of the subjects at hand, he creates a series of questions.

The following interest rate scenario is used to derive examples on the different theories used to explain the shape of the term structure and for all computational problems in Wallace's lectures.

Table 1 LIBOR Forward Rates and Implied Spot Rates

Period	LIBOR Forward Rates	Implied Spot Rates
0 × 6	5.0000%	5.0000%
6 × 12	5.5000%	5.2498%
12 × 18	6.0000%	5.4996%
18 × 24	6.5000%	5.7492%
24 × 30	6.7500%	5.9490%
30 × 36	7.0000%	6.1238%

James uses a rounded day count of 0.5 years for each semi-annual period.

Question #49 of 80

Following Wallace's first lecture he asks the trainees which of the following explains an upward sloping yield curve according to the (unbiased) pure expectations theory of the term structure of interest rates?

A) There is greater demand for short-term securities than for long-term securities. ✗

B) There is a risk premium associated with more distant maturities. ✗

C) The market expects short-term rates to rise through the relevant future. ✓

Explanation

Under this theory, forward rates exclusively represent expected future spot rates. Thus the entire term structure at a given time reflects the market's expectations of future short term spot rates.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #50 of 80

Wallace now poses a similar question regarding the liquidity preference theory. Which of the following could explain an upward sloping yield curve according to the liquidity preference theory of the term structure of interest rates?

A) There is greater demand for short-term securities than for long-term securities. ✗

B) There is a risk premium associated with more distant maturities. ✓

C) The market expects short-term rates to rise through the relevant future. ✗

Explanation

According to the liquidity preference theory, the pure expectations theory applies but is modified for a risk or term premium. The longer the maturity, the greater the risk of price fluctuation to the investor.

Short-term rates to rise through the relevant future could explain an upward sloping yield curve according to the pure expectations theory. Greater demand for short-term securities than for long-term securities could explain an upward sloping yield curve according to the market segmentation theory. The market segmentation theory implies that the rate of interest for a particular maturity is determined solely by demand and supply for that maturity, with no reference to conditions for other maturities.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #51 of 80

Wallace explains to the class that the swap fixed rate is one where the values of the floating-rate and the fixed-rate are the same at the inception of the swap. Using the information in Table 1, he asks the class to compute the swap fixed rate for a one-year plain vanilla interest rate swap with semiannual payments. Which of the following is the *closest* to the correct answer?

A) 3.43%.

B) 5.18%.

C) 2.56%.

Explanation

First calculate the discount factors:

$$Z_{180} = 1 / \{1 + [(0.05 \times (180 / 360)]\} = 0.9756$$

$$Z_{360} = 1 / \{[1 + (0.052498 \times (360 / 360)]\} = 0.9501$$

The semi-annual fixed rate on the swap is:

$$(1 - 0.9501) / (0.9756 + 0.9501) = 2.59\% \times 2 = 5.18\%$$

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #52 of 80

Wallace finally asks the class about the market segmentation theory of the term structure of interest rates. Specifically, Wallace asks which of the following could explain an upward sloping yield curve according to the market segmentation theory?

A) There is a risk premium associated with more distant maturities.

B) There is greater demand for long-term securities than for short-term securities.

C) There is greater demand for short-term securities than for long-term securities.

Explanation

This could explain an upward sloping yield curve according to the market segmentation theory. The market segmentation theory implies that the rate of interest for a particular maturity is determined solely by demand and supply for that maturity, with no reference to conditions for other maturities.

A risk premium associated with more distant maturities could explain an upward sloping yield curve according to the liquidity preference theory. Greater demand for long-term securities than for short-term securities would drive the yields on long-term securities down and would result in an inverted (downward sloping) yield curve.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #53 of 80

Wallace presents the relationships between spot and forward rates according to the pure expectations theory. Which of the following is *closest* to the one-year implied forward rate one year from now?

A) 6.58%.

B) 6.25%.

C) 5.75%.

Explanation

$f(1,1) = (1+S_2)^2 / (1+S1) - 1 = (1.057492)^2 / (1.052498) - 1 = 0.0625$ or 6.25%

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #54 of 80

Wallace completes his first lecture by tying the relationship between Treasury prices and the shape of the term structure. He is particularly interested in the implications of a steepening yield curve. Which of the following is *most* accurate for a steepening yield curve?

A) The price of long-term Treasury securities increases relative to the price of short-term Treasury securities.

B) The price of short-term Treasury securities increases.

C) The price of short-term Treasury securities increases relative to the price of long-term Treasury securities.

Explanation

For a steepening of the yield curve to occur, in every case, the short-term yield has to decrease relative to the long-term yield. Therefore, the price of short-term Treasury securities increases relative to the price of long-term securities.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #55 of 80

According to the pure expectations theory, which of the following statements is *most* accurate? Forward rates:

A) exclusively represent expected future spot rates. ✓

B) always overestimate future spot rates. ✗

C) are biased estimates of market expectations. ✗

Explanation

The pure expectations theory, also referred to as the *unbiased* expectations theory, purports that forward rates are *solely a function of expected future spot rates*. Under the pure expectations theory, a yield curve that is upward (downward) sloping, means that short-term rates are expected to rise (fall). A flat yield curve implies that the market expects short-term rates to remain constant.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #56 of 80

Which of the following statements are *most accurate*?

A) Volatility of short-term and long-term rates is typically equal. ✗

B) Short-term rates are typically more volatile than long-term rates. ✓

C) Long-term rates are typically more volatile than short-term rates. ✗

Explanation

Volatility of rates is inversely related to maturity: long-term rates are less volatile than short-term rates.

(Study Session 12, Module 34.6, LOS 34.m)

Related Material

SchweserNotes - Book 4

Question #57 of 80

Which theory explains the shape of the yield curve by considering the relative demands for various maturities?

A) The pure expectations theory. ✗

B) The liquidity premium theory. ✗

C) The segmentation theory. ✓

Explanation

The market segmentation theory contends that lenders and borrowers have preferred maturity ranges, and that supply and demand forces in each maturity range determines yields. This theory relies on the idea that some investors have restrictions (either legal or practical) on their preferred maturity structure and that they are unwilling or unable to move out of their preferred ranges.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #58 of 80

Z-spread is *most accurately* described as the constant spread that is:

A) equal to the difference between a bond's yield and the yield on a government bond.

B) added to the zero volatility binomial tree such that an option-free bond is correctly valued.

C) added to the spot rate curve to generate discount rates for each of the bond's cash flows such that the present value of the cash flows is exactly equal to the market price of the bond.

Explanation

Z-spread is the constant spread added to the spot rate curve to generate discount rates which then value the bond at its current market price. The difference between yields of a risky and government bond will be same as the Z-spread only when the yield curve is flat. A Zero-volatility binomial tree does not exist!

(Study Session 12, Module 34.4, LOS 34.h)

Related Material

SchweserNotes - Book 4

Carol Stephens, CFA, oversees five portfolio managers who all manage fixed income portfolios for one institutional client. Stephens feels that interest rates will change over the next year but is uncertain about the extent and direction of this change. She is confident, however, that the yield curve will change in a nonparallel manner and that modified duration will not accurately measure the overall total portfolio's yield-curve risk exposure. To help her evaluate the risk of her client's total portfolio, she has assembled the table of rate durations shown below.

Issue	Value ($millions)	3 mo	2 yr	5 yr	10 yr	15 yr	20 yr	25 yr	30 yr
Portfolio 1	100	0.03	0.14	0.49	1.35	1.71	1.59	1.47	4.62
Portfolio 2	200	0.02	0.13	1.47	0.00	0.00	0.00	0.00	0.00
Portfolio 3	150	0.03	0.14	0.51	1.40	1.78	1.64	2.34	2.83
Portfolio 4	250	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Portfolio 5	300	0.00	0.88	0.00	0.00	1.83	0.00	0.00	0.00

The value of the total portfolio is $1,000,000,000.

For this question only, imagine that the following three key rates change while the others remain constant:

- The 3-month rate increases by 20 basis points.
- The 5-year rate increases by 90 basis points.
- The 30-year rate decreases by 150 basis points.

Question #59 of 80

The new total value of the portfolio after these rate changes will be *closest* to:

A) $1,009,469,000.

B) $961,075,000.

C) $1,004,735,000.

Explanation

Key Rate Durations										
	weight	3 mo	2 yr	5 yr	10 yr	15 yr	20 yr	25 yr	30 yr	Effective Duration
Portfolio 1	0.10	0.03	0.14	0.49	1.35	1.71	1.59	1.47	4.62	11.40
Portfolio 2	0.20	0.02	0.13	1.47	0.00	0.00	0.00	0.00	0.00	1.62
Portfolio 3	0.15	0.03	0.14	0.51	1.40	1.78	1.64	2.34	2.83	10.67
Portfolio 4	0.25	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Portfolio 5	0.30	0.00	0.88	0.00	0.00	1.83	0.00	0.00	0.00	2.71
Total Portfolio	1.00	0.0265	0.3250	0.4195	0.3450	0.9870	0.4050	0.4980	0.8865	3.8925

Change in Portfolio Value

Change from 3-month key rate increase:	(20 bp)(0.0265)	= 0.0053% decrease
Change from 5-year key rate increase:	(90 bp)(0.4195)	= 0.3776% decrease
Change from 30-year key rate decrease:	(150 bp)(0.8865)	= 1.3298% increase
Net change		0.9469% increase

This means that the total portfolio value after the yield curve shift is:

$$1{,}000{,}000{,}000(1 + 0.009469) = \$1{,}009{,}469{,}000$$

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #60 of 80

For this question only, imagine that the original yield curve undergoes a parallel shift such that the rates at all key maturities increase by 50 basis points. The new value of the total portfolio will be *closest* to:

A) $961,075,000.

B) $1,019,462,500.

C) $980,537,500.

Explanation

Key Rate Durations										
	weight	3 mo	2 yr	5 yr	10 yr	15 yr	20 yr	25 yr	30 yr	Effective Duration
Portfolio 1	0.10	0.03	0.14	0.49	1.35	1.71	1.59	1.47	4.62	11.40
Portfolio 2	0.20	0.02	0.13	1.47	0.00	0.00	0.00	0.00	0.00	1.62
Portfolio 3	0.15	0.03	0.14	0.51	1.40	1.78	1.64	2.34	2.83	10.67
Portfolio 4	0.25	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Portfolio 5	0.30	0.00	0.88	0.00	0.00	1.83	0.00	0.00	0.00	2.71
Total Portfolio	1.00	0.0265	0.3250	0.4195	0.3450	0.9870	0.4050	0.4980	0.8865	3.8925

Since the yield curve underwent a parallel shift, the impact on portfolio value can be computed directly using the portfolio's effective duration. There are two methods that can be used to calculate effective duration in this situation. Both methods use the market weight of the individual bonds in the portfolio. As shown in the second column of the table above, the total portfolio weight of each subportfolio equals: Bond value/Portfolio value, where the portfolio value is $1,000,000,000.

Method 1) Effective duration of the portfolio is the sum of the weighted averages of the key rate durations for each issue. The 3-month key rate duration for the total portfolio can be calculated as follows:

(0.10)(0.03) + (0.20)(0.02) + (0.15)(0.03) + (0.25)(0.06) + (0.30)(0) = 0.0265

This method can be used to generate the rest of the key rate duration shown in the bottom row of the table above and summed to yield an effective duration = 3.8925.

Method 2) Effective duration of the portfolio is the weighted average of the effective durations for each issue. The effective duration of each issue is the sum of the individual rate durations for that issue. These values are shown in the right-hand column of the table above. Using this approach, the effective duration of the portfolio can be computed as:

(0.10)(11.4) + (0.20)(1.62) + (0.15)(10.67) + (0.25)(0.06) + (0.30)(2.71) = 3.8925

Using an effective duration of 3.8925, the value of the portfolio following a parallel 50 basis point shift in the yield curve can be computed as follows: Percentage change = (50 basis points)(3.8925) = 1.9463% decrease. $1,000,000,000 × (1-0.0194625) = $980,537.500.

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #61 of 80

For this question only, imagine that the original yield curve undergoes a shift such that 3-month rates remain constant and all other rates increase by 135 basis points. The new value of portfolio 4 will be *closest* to:

A) $243,375,000.

B) $250,000,000.

C) $229,750,000.

Explanation

Key Rate Durations										
	weight	3 mo	2 yr	5 yr	10 yr	15 yr	20 yr	25 yr	30 yr	Effective Duration
Portfolio 1	0.10	0.03	0.14	0.49	1.35	1.71	1.59	1.47	4.62	11.40
Portfolio 2	0.20	0.02	0.13	1.47	0.00	0.00	0.00	0.00	0.00	1.62
Portfolio 3	0.15	0.03	0.14	0.51	1.40	1.78	1.64	2.34	2.83	10.67
Portfolio 4	0.25	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Portfolio 5	0.30	0.00	0.88	0.00	0.00	1.83	0.00	0.00	0.00	2.71
Total Portfolio	1.00	0.0265	0.3250	0.4195	0.3450	0.9870	0.4050	0.4980	0.8865	3.8925

Since the 3-month rate did not change, and all other key rate durations for Portfolio 4 are zero, a 135 basis point change will have no effect on the value of Portfolio 4. Hence, Portfolio 4 remains valued at $250,000,000.

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #62 of 80

The 10-year key rate duration for the total portfolio is *closest* to:

A) 1.350.

B) 1.375.

C) 0.345.

Explanation

Key Rate Durations										
	weight	3 mo	2 yr	5 yr	10 yr	15 yr	20 yr	25 yr	30 yr	Effective Duration
Portfolio 1	0.10	0.03	0.14	0.49	1.35	1.71	1.59	1.47	4.62	11.40
Portfolio 2	0.20	0.02	0.13	1.47	0.00	0.00	0.00	0.00	0.00	1.62
Portfolio 3	0.15	0.03	0.14	0.51	1.40	1.78	1.64	2.34	2.83	10.67
Portfolio 4	0.25	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Portfolio 5	0.30	0.00	0.88	0.00	0.00	1.83	0.00	0.00	0.00	2.71
Total Portfolio	1.00	0.0265	0.3250	0.4195	0.3450	0.9870	0.4050	0.4980	0.8865	3.8925

The total portfolio key rate duration for a specific maturity is the weighted value of the key rate durations of the individual issues for that maturity. In this case, the 10-year key rate duration for the portfolio is:

(0.10)(1.35) +(0.20)(0.00) + (0.15)(1.40) + (0.25)(0.00) + (0.30)(0.00) = 0.345

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #63 of 80

The effective duration for Portfolio 2 is *closest* to:

A) 1.47.

B) 1.62.

C) 0.023.

Explanation

Key Rate Durations										
	weight	3 mo	2 yr	5 yr	10 yr	15 yr	20 yr	25 yr	30 yr	Effective Duration
Portfolio 1	0.10	0.03	0.14	0.49	1.35	1.71	1.59	1.47	4.62	11.40
Portfolio 2	0.20	0.02	0.13	1.47	0.00	0.00	0.00	0.00	0.00	1.62
Portfolio 3	0.15	0.03	0.14	0.51	1.40	1.78	1.64	2.34	2.83	10.67
Portfolio 4	0.25	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Portfolio 5	0.30	0.00	0.88	0.00	0.00	1.83	0.00	0.00	0.00	2.71
Total Portfolio	1.00	0.0265	0.3250	0.4195	0.3450	0.9870	0.4050	0.4980	0.8865	3.8925

The effective duration for any individual issue is the sum of the individual key rate durations for that issue. For Portfolio 2, the effective duration is:

0.02 + 0.13 + 1.47 = 1.62

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #64 of 80

If an active bond portfolio manager believes future spot rates will be lower than indicated by today's forward rates, then she will *most likely*:

A) be indifferent because her holding period return will be unaffected. ✗

B) sell bonds because the market appears to be discounting future cash flows at "too high" of a discount rate. ✗

C) purchase bonds because the market is discounting future cash flows at "too high" of a discount rate. ✓

Explanation

If an investor believes future spot rates will be lower than indicated by today's forward rates, then she should purchase bonds (at a presumably attractive price) because the market appears to be discounting future cash flows at "too high" of a discount rate.

(Study Session 12, Module 34.2, LOS 34.d)

Related Material

SchweserNotes - Book 4

Question #65 of 80

Martha Garret, CFA, manages fixed-income portfolios for Jones Brothers, Inc. (JBI). JBI has been in the portfolio management business for over 23 years and provides investors with access to actively managed equity and fixed-income portfolios. All of JBI's fixed-income portfolios are constructed using U.S. debt instruments. Garret's primary portfolio responsibilities are the Quasar Fund and the Nova Fund, both of which are long fixed-income portfolios consisting of Treasury securities in all maturity ranges. The Quasar Fund holdings as of March 15 are provided in Exhibit 1. A comparison of key rate durations for the Quasar Fund and Nova Fund is provided in Exhibit 2.

Exhibit 1: Quasar Fund

Bond	Maturity (years)	Coupon	Yield	Par Value	Market Value	Duration
A	2	5.0%	5.0%	4,000,000	4,000,000	1.86
B	5	4.5%	6.0%	3,500,000	3,278,851	4.32
C	15	8.0%	7.0%	2,750,000	3,000,468	8.90
D	30	6.5%	4.0%	6,450,000	9,238,340	15.90

Exhibit 2: Key Rate Durations for Quasar Fund & Nova Fund

Fund	Maturity (years)			
	2	5	15	30
Quasar Fund	0.90	1.20	1.80	6.10
Nova Fund	0.40	2.50	3.40	1.10

Of particular importance to Garret and her colleagues is the degree of interest rate risk exposure unique to each portfolio under JBI's management. Driving the increased awareness of the portfolios' interest rate exposure is the double-digit growth in assets under management that JBI's fixed-income portfolios have experienced in the past five years. Interest in the company's fixed income portfolios continues to grow and as a result, all portfolio managers are required to attend weekly meetings to discuss key portfolio risk factors. At the last meeting, Miranda Walsh, a principal at JBI, made the following comments:

> "The variance of daily interest rate changes has been trending higher over the past three months, leading us to believe that a period of high volatility is approaching in the next 12 to 18 months. However, the reliability is questionable because the volatility estimates were derived using an option pricing model, which assumes constant interest rates."
>
> "Also, the Treasury spot rate curve currently has a similar shape to the yield curve on Treasury coupon securities, which according to the market segmentation theory of interest rate term structure, indicates a relatively high level of demand from investors for intermediate term securities. Overzealous trading by investors unwilling to move into other maturity ranges may create mispricing and opportunities for arbitrage."

After the meeting, Walsh and JBI's other principals met to discuss a new international portfolio opportunity. At Walsh's suggestion, the principals selected Garret as the lead portfolio manager for the new fund, which will be titled the Atlantic Fund. One of the other portfolio managers, Greg Terry, CFA, suggested to Garret that she utilize the LIBOR swap curve as a benchmark for the Atlantic fund rather than using local government yield curves. Terry justifies his suggestion by claiming that "the lack of government regulation in the swap market makes swap rates and curves directly comparable between different countries despite fewer maturity points with which to construct the curve as compared to a government yield curve. Furthermore, credit risk in the swap curves of various countries is similar, thus avoiding the

complications associated with different levels of sovereign risk embedded in government yield curves." Intrigued by the idea of using the swap curve, Garret has her assistant begin gathering a range of current and forward LIBOR rates.

.....

Evaluate Walsh's comments regarding the method used to estimate the expected increase in interest rate volatility and the term structure of interest rates.

A) Walsh is correct only with respect to interest rate volatility.

B) Walsh is incorrect with respect to both interest rate volatility and term structure.

C) Walsh is correct with respect to both interest rate volatility and term structure.

Explanation

Option pricing models assume a constant volatility of interest rates but not a constant level of interest rates. Walsh's first statement is incorrect. The market segmentation theory says that the term structure of interest rates is determined solely by the supply/demand for a given maturity sector. The statement is incorrect, however, because high demand from investors (who wish to lend money) would push interest rates lower, not higher, as observed in the term structure.

(Study Session 12, Module 34.3, LOS 34.f)

Related Material

SchweserNotes - Book 4

Question #66 of 80

With respect to local expectations theory, which of the following statements is *most consistent* with market evidence?

A) Short-term holding period return of long-maturity bonds and the short-term holding period return of short-maturity bonds is the same.

B) Short-term holding period return of short-maturity bonds exceeds the short-term holding period returns of long-maturity bonds.

C) Short-term holding period return of long-maturity bonds exceeds the short-term holding period returns of short-maturity bonds.

Explanation

Market evidence shows that short-term holding period returns from investing in long-maturity bonds exceed the short-term holding period returns from investing in short-maturity bonds.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #67 of 80

Which one of the following is *least likely* a reason to use the swap rate curve?

A) Swap rates reflect credit risk of commercial banks and not government.

B) The swap market is not regulated by any government.

C) Swap rates are less volatile than government bond yields. ✓

Explanation

Lower volatility of swap rates relative to government bond yields as a generalization is an incorrect statement.

(Study Session 12, Module 34.3, LOS 34.f)

Related Material

SchweserNotes - Book 4

Question #68 of 80

Independence Bank is a small retail bank that specializes in demand deposits and invests in CMO tranches. For the purpose of valuation of Independence Bank's assets and liabilities, the *most appropriate* reference yield curve would be:

A) swap rate curve. ✗

B) government spot curve. ✓

C) Libor-OIS curve. ✗

Explanation

While wholesale banks extensively hedge their assets and/or liabilities using the swap market, retail banks typically have very little exposure to the swap market. Accordingly, the government spot curve is most appropriate for retail banks while the swap rate curve may be most appropriate for wholesale banks.

(Study Session 12, Module 34.3, LOS 34.f)

Related Material

SchweserNotes - Book 4

Question #69 of 80

What adjustment must be made to the key rate durations to measure the risk of a steepening of an already upward sloping yield curve?

A) Increase the key rates at the short end of the yield curve. ✗

B) Increase all key rates by the same amount. ✗

C) Decrease the key rates at the short end of the yield curve. ✓

Explanation

Decreasing the key rates at the short end of the yield curve makes an upward sloping yield curve steeper. Performing the corresponding change in portfolio value will determine the risk of a steepening yield curve.

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #70 of 80

Given annual spot interest rates for 1 year, 2 years, 3 years, 4 years, and 5 years, the maximum number of forward rates that can be derived is *closest* to:

A) 5

B) 10

C) 8

Explanation

Select all forward rates $f(j,k)$ such that $j+k \leq 5$. There are 10 forward rates possible: $f(1,1)$, $f(1,2)$, $f(1,3)$, $f(1,4)$, $f(2,1)$, $f(2,2)$, $f(2,3)$, $f(3,1)$, $f(3,2)$, $f(4,1)$

(Study Session 12, Module 34.1, LOS 34.a)

Related Material

SchweserNotes - Book 4

Question #71 of 80

The price of a five-year zero coupon bond is $0.7835 for $1 par and the price of a two-year zero-coupon bond is $0.9426 for $1 par. The three-year forward rate two years from now is *closest* to:

A) 4.87%

B) 6.36%

C) 5.54%

Explanation

$F_{(2,3)} = P_5/P_2 = 0.7835/0.9426 = 0.8312$

$[1+f(2,3)]^3 = 1/ F_{(2,3)} = 1/0.8312 = 1.2031$

$f(2,3) = 6.36\%$

(Study Session 12, Module 34.1, LOS 34.b)

Related Material

SchweserNotes - Book 4

Question #72 of 80

Jill Sebelius, editor-in-chief of a monthly interest-rate newsletter uses the following model to forecast short-term interest rates:

$$dr = a(b - r)\,dt + \sigma\sqrt{r}dz$$

For the current newsletter, Sebelius has issued the following expectations:

a=0.40, b = 3%, r = 2%.

Based on Sebelius's estimates, over a sufficiently long period of time, the expected value of the short-term interest rate is *closest* to:

A) 3%

B) 2%

C) 2.4%

Explanation

The long-term expected value of short-term rates is the mean reverting level (b) estimated by Sebelius to be 3%.

(Study Session 12, Module 34.6, LOS 34.k)

Related Material

SchweserNotes - Book 4

Question #73 of 80

7.5%, 15-year, annual pay option-free Xeleon Corp bond trades at a market price of $95.72 per $100 par. The government spot rate curve is flat at 5%.

Suppose that the Xeleon bond was callable in 10 years at par and an analyst computed the Z-spread on the bond ignoring the embedded option. Relative to the Z-spread on an option-free bond, the calculated Z-spread will *most likely* be:

A) higher.

B) lower.

C) the same.

Explanation

Since a bond with an embedded call option would trade at a lower price than a comparable option-free bond (i.e., its market price would be lower), the additional spread needed to force the model value to the (lower) market price will be higher. Because the Z-spread would inadvertently include compensation for option risk as well as for credit and liquidity risks, it is not appropriate for valuing bonds with embedded options.

(Study Session 12, Module 34.4, LOS 34.h)

Related Material

SchweserNotes - Book 4

Question #74 of 80

Currently the term structure of interest rate is downward sloping. Which of the following models *most accurately* describe the current term structure?

A) Ho-Lee model.

B) Vasicek model.

C) Cox-Ingersoll-Ross model.

Explanation

Ho-Lee model is an arbitrage-free term structure that is calibrated to the current actual term structure (regardless of whether it is upward or downward sloping). Vasicek and Cox-Ingersoll-Ross model are examples of equilibrium term structure models and may generate term structures inconsistent with current market observations.

(Study Session 12, Module 34.6, LOS 34.k)

Related Material

SchweserNotes - Book 4

Question #75 of 80

Jon Smithson is a bond trader at Zezen Bank. The spot rate curve is currently flat. Smithson expects that the curve will become upward sloping in the next year. Based on this expectation, the *least appropriate* active strategy for Smithson would be to:

A) increase the duration of the portfolio.

B) sell all the long-term bonds in the portfolio and reinvest the proceeds in shorter-maturity bonds.

C) reduce the duration of the portfolio.

Explanation

The question is asking for least appropriate strategy. Given an expectation of steepening of the yield curve, an active bond manager would reduce the duration of the portfolio.

(Study Session 12, Module 34.2, LOS 34.d)

Related Material

SchweserNotes - Book 4

Question #76 of 80

A bond portfolio has the following key rate durations:

$D_2 = 0.50$; $D_5 = 2.70$ and $D_{15} = 7.23$.

Suppose that the change in yield curve results in changes in the following spot rates:

$S_1 = +50bps$; $S_2 = +100bps$; $S_5 = +25$ bps; $S_{10} = -75bps$; $S_{15} = -100bps$.

The change in the value of the portfolio will be *closest* to:

A) 6.06%

B) 4.75%

C) -2.80%

Explanation

$\%\Delta P = -(0.50)(1.0)-(2.70)(0.25)-(7.23)(-1) = 6.06\%$

(Study Session 12, Module 34.6, LOS 34.l)

Related Material

SchweserNotes - Book 4

Question #77 of 80

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her $25 million bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	Portfolio 1	Portfolio 2	Portfolio 3
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two advantages to using the swap rate curve:

Statement 1:	The swap rate curve typically has yield quotes at 11 maturities between 2 and 30 years. The U.S. government bond yield curve, however, has fewer on-the-run issues trading at maturities of at least two years.
Statement 2:	Swap curves across countries are more comparable than government bond curves because they reflect similar levels of credit risk.

Berg also estimates the nominal spread, Z-spread, and option-adjusted spread (OAS) for the Steigers Corporation callable bonds in Portfolio 2. The OAS is estimated from a binomial interest rate tree. The results are shown in Exhibit 2.

Exhibit 2: Spread Measures for Steigers Corporation Callable Bonds

	Spread Measure	Benchmark
Nominal spread	25 basis points	Steigers Corp yield curve
Z-spread	35 basis points	Steigers Corp spot rate curve
OAS	−20 basis points	Steigers Corp spot rate curve
Nominal spread	120 basis points	Treasury yield curve
OAS	40 basis points	Treasury spot rate curve

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

Is Berg's short-term interest rate forecast consistent with the pure expectations theory and the liquidity premium theory?

A) Consistent with the pure expectations theory only.

B) Consistent with the liquidity premium theory only.

C) Consistent with both theories.

Explanation

An upward sloping yield curve predicts an increase in short-term rates according to the pure expectations theory but not necessarily the liquidity premium theory.

The liquidity theory says that forward rates are a biased estimate of the market's expectation of future rates because they include a liquidity premium. Therefore, a positive sloping yield curve may indicate either (1) that the market expects future interest rates to rise or (2) that rates are expected to remain constant (or even fall), but the addition of the liquidity premium results in a positive slope.

(Study Session 12, Module 34.5, LOS 34.j)

Related Material

SchweserNotes - Book 4

Question #78 of 80

An active bond portfolio manager would *most* appropriately buy bonds when expected spot rates are:

A) less than current forward rates.

B) equal to current forward rates.

C) greater than current forward rates.

Explanation

When expected spot rates are less than the forward rates priced by the market, bonds are undervalued (they are discounted at too high a rate) and hence should be purchased.

(Study Session 12, Module 34.2, LOS 34.d)

Related Material

SchweserNotes - Book 4

Question #79 of 80

Martha Garret, CFA, manages fixed-income portfolios for Jones Brothers, Inc. (JBI). JBI has been in the portfolio management business for over 23 years and provides investors with access to actively managed equity and fixed-income portfolios. All of JBI's fixed-income portfolios are constructed using U.S. debt instruments. Garret's primary portfolio responsibilities are the Quasar Fund and the Nova Fund, both of which are long fixed-income portfolios consisting of Treasury securities in all maturity ranges. The Quasar Fund holdings as of March 15 are provided in Exhibit 1. A comparison of key rate durations for the Quasar Fund and Nova Fund is provided in Exhibit 2.

Exhibit 1: Quasar Fund

Bond	Maturity (years)	Coupon	Yield	Par Value	Market Value	Duration
A	2	5.0%	5.0%	4,000,000	4,000,000	1.86
B	5	4.5%	6.0%	3,500,000	3,278,851	4.32
C	15	8.0%	7.0%	2,750,000	3,000,468	8.90
D	30	6.5%	4.0%	6,450,000	9,238,340	15.90

Exhibit 2: Key Rate Durations for Quasar Fund & Nova Fund

Fund	Maturity (years)			
	2	5	15	30
Quasar Fund	0.90	1.20	1.80	6.10
Nova Fund	0.40	2.50	3.40	1.10

Of particular importance to Garret and her colleagues is the degree of interest rate risk exposure unique to each portfolio under JBI's management. Driving the increased awareness of the portfolios' interest rate exposure is the double-digit growth in assets under management that JBI's fixed-income portfolios have experienced in the past five years. Interest in the company's fixed income portfolios continues to grow and as a result, all portfolio managers are required to attend weekly meetings to discuss key portfolio risk factors. At the last meeting, Miranda Walsh, a principal at JBI, made the following comments:

> "The variance of daily interest rate changes has been trending higher over the past three months, leading us to believe that a period of high volatility is approaching in the next 12 to 18 months. However, the reliability is questionable because the volatility estimates were derived using an option pricing model, which assumes constant interest rates."
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> "Also, the Treasury spot rate curve currently has a similar shape to the yield curve on Treasury coupon securities, which according to the market segmentation theory of interest rate term structure, indicates a relatively high level of demand from investors for intermediate term securities. Overzealous trading by investors unwilling to move into other maturity ranges may create mispricing and opportunities for arbitrage."

After the meeting, Walsh and JBI's other principals met to discuss a new international portfolio opportunity. At Walsh's suggestion, the principals selected Garret as the lead portfolio manager for the new fund, which will be titled the Atlantic Fund. One of the other portfolio managers, Greg Terry, CFA, suggested to Garret that she utilize the LIBOR swap curve as a benchmark for the Atlantic fund rather than using local government yield curves. Terry justifies his suggestion by claiming that "the lack of government regulation in the swap market makes swap rates and curves directly comparable between different countries despite fewer maturity points with which to construct the curve as compared to a government yield curve. Furthermore, credit risk in the swap curves of various countries is similar, thus avoiding the

complications associated with different levels of sovereign risk embedded in government yield curves." Intrigued by the idea of using the swap curve, Garret has her assistant begin gathering a range of current and forward LIBOR rates.

Which of the following *best* evaluates Terry's justification for using the swap curve as the benchmark for the Atlantic Fund? Terry's justification is:

A) incorrect because there are different levels of credit risk in the swap curves of different countries.

B) correct.

C) incorrect because there are actually more maturity points to construct the swap curve.

Explanation

Terry's justification is incorrect. There are actually more maturity points in the swap market from which a swap curve can be derived. The rest of Terry's statements are correct.

(Study Session 12, Module 34.3, LOS 34.f)

Related Material

SchweserNotes - Book 4

Question #80 of 80

Use the following spot rate curve to answer this question:

Maturity	1	2	3
Spot rates	5%	5.5%	6%

The 1-year forward rate in one year [$f(1,1)$] and the 1-year forward rate in two years [$f(2,1)$] is *closest* to:

	$f(1,1)$	$f(2,1)$
A)	6%	7%
B)	4%	4.89%
C)	5.25%	5.75%

Explanation

$f(1,1) = (1+S_2)^2/(1+S_1) - 1 = 6\%$

$f(2,1) = (1+S_3)^3/(1+S_2)^2 - 1 = 7\%$

(Study Session 12, Module 34.1, LOS 34.a)

Related Material

SchweserNotes - Book 4