

### Question 1 of 100

In the U.S., the short-term real risk-free return is 1.9%, the short-term nominal risk-free return is 3.2%, and the expected inflation rate is 1.3%. If the risk premium for U.S. equities is 6%, which of the following corresponds to the expected return on U.S. equities?

- A. 6.6%
- B. 7.3%
- C. 9.2%
- D. 10.5%

**EXPLANATION** • Learning Objective 2.1.2

ID: L2-2.1.2-010

Expected return on equities = Short-term real risk-free return + Expected inflation + Risk premium = 1.9% + 1.3% + 6% = 9.2%

### Question 2 of 100

The Board of Trustees of The WildWood Foundation, a private foundation based in Chicago, is tasked with strategic planning and oversight of the Foundation. The Foundation's Investment Committee is responsible for overseeing the Foundation's investment activities and for ensuring that all investments are managed in a way that is consistent with the Foundation's policies and objectives. Which of the following statements would most likely be included as a spending policy in the WildWood Foundation's investment policy statement?

- A. The Investment Committee is responsible for maintaining the Foundation's intergenerational equity and balancing the needs of current and future beneficiaries.
- B. The spending policy will be reviewed at least monthly and modified based on evolving trends with respect to the portfolio's funding needs and other factors.
- C. The annual target spending rate must be 4% of the portfolio's trailing 2-year average market value at the end of the recent fiscal year.

**EXPLANATION** • Learning Objective 2.1.6

ID: L2-2.1.6-013

The Investment Committee needs to maintain the Foundation's intergenerational equity so as to balance the needs of current and future beneficiaries. Thus, the portfolio's assets have a dual funding role.

Other responses -

- It is not likely that the spending policy would be reviewed at least monthly; more likely at least annually.
- Foundations in the U.S. have a minimum spending rate of 5%.

---

**Question 3 of 100**

Which of the following best corresponds to Yale University's endowment model?

- A. concentrated in high-yielding alternative assets and no investments in traditional assets
- B. concentrated in high-liquidity alternative assets and few investments in traditional assets
- C. concentrated in high-yielding alternative assets, investments in some domestic sovereign bonds for liquidity, but typically no foreign bond investments
- D. concentrated in high-yielding alternative assets with investments in some domestic and foreign sovereign bonds for liquidity

**EXPLANATION** • Learning Objective 2.2.3

ID: L2-2.2.3-006

The endowment model makes high allocations to alternative assets and relatively low allocations to traditional assets. It allocates to some domestic sovereign bonds for liquidity, but does not invest in investment-grade or high-yield bonds (due to agency issue) or typically not foreign bonds (due to currency risk). The portfolio is highly illiquid.

---

**Question 4 of 100**

Which of the following apply to Swensen's endowment fund portfolio?

- I. Implements a contrarian strategy.
- II. Tilts toward overvalued assets.
- III. Aggressively rebalances to long-term weights.
- IV. Applies tactical asset allocations.

- A. I and III only
- B. II and IV only
- C. I, II, and III only
- D. I, III, and IV only

**EXPLANATION** • Learning Objective 2.2.4

ID: L2-2.2.4-011

II is incorrect: rebalancing involves tilting the portfolio away from overvalued assets (and towards undervalued assets).

---

**Question 5 of 100**

Which of the following correspond to why the use of defined benefit pension plans has decreased in the recent past?

- I. Regulatory change regarding disclosure
- II. Concern about exposure to equity risk
- III. Mandated higher employer contribution
- IV. Required cost of living adjustments

- A. I only
- B. I and III only
- C. II and IV only
- D. I, II, and III only

**EXPLANATION** • Learning Objective 2.3.3

ID: L2-2.3.3-018

The factor is regulatory change regarding disclosure.

In general, factors that contributed to decreased use of DB pension plans -

1. Unaffordability - When a fund's actual return is lower than its required return (i.e., the return on which a plan sponsor makes contributions), the fund's funded ratio declines.
2. Regulatory changes - U.S. Pension Protection Act requires employers disclose the plan's funded status to plan participants and requires employer contributions to match the funding status.
3. Lack of portability

---

**Question 6 of 100**

Alto Inc. offers its employees a defined contribution pension plan. Sienna Long has been working at Alto for over a decade. She is considering a change in careers. Which of the following LEAST likely applies to Alto's defined contribution plan?

- A. Sienna Long makes her own asset allocation decisions.
- B. The plan is more portable than a defined benefit plan.
- C. Sienna Long is not exposed to longevity risk.
- D. Alto Inc. does not bear any surplus risk.

**EXPLANATION** • Learning Objective 2.3.5

ID: L2-2.3.5-004

Longevity risk is borne by employees since there is no guarantee of the monthly retirement income. Employees with low investment returns or long lives may find their assets depleted during retirement.

Other response: Employers bear no surplus risk in DC plans since assets and liabilities always match.

---

## Question 7 of 100

A small company in Boston offers its employees a defined benefit pension plan. The pension plan has assets of \$150 million and the pension fund manager estimates that the fund's projected benefit obligation is \$150 million. The duration of the pension fund's liabilities is 8 years and the fund's assets are invested in nine-year risk-free zero-coupon bonds. If interest rates increase by 1%, which of the following most accurately describes the pension plan's funded status?

- A. 1.1% overfunded
- B. 2.2% overfunded
- C. 1.1% underfunded
- D. 2.2% underfunded

**EXPLANATION** • Learning Objective 2.3.3

ID: L2-2.3.3-017

The pension plan's projected benefit obligation (PBO) is similar to a short position in bonds, which changes in value by approximately:

$$\% \text{ change in liabilities} = -\text{Modified duration} \times \text{Change in yield} = -8 \times 1\% = -8\%.$$

This indicates that the increase in the interest rates reduces the fund's PBO from \$150 million to \$138 million (= \$150m x 92%).

The duration of a zero-coupon bond is the same as its maturity, so the duration of the 9-year zeros is 9 years. After a 1% increase in rates, the value of the bond will change by:

$$\% \text{ change in liabilities} = -\text{Modified duration} \times \text{Change in yield} = -9 \times 1\% = -9\%.$$

So, the value of the fund's assets (i.e., \$150m of zero-coupon bonds) will drop to \$136.50m (= \$150m x 91%).

Therefore, the fund's new funded status = Current assets / PBO = \$136.50m / \$138m = 98.9%.

So, the fund is approximately 1.1% underfunded.

Another way to consider this is that the fund's liabilities exceed its assets by ~1.1% [= (\$138m/\$136.50m - 1)].

## Question 8 of 100

If a country's currency depreciates in value, which of the following is observed in the country relative to its trading partners?

- A. higher interest rates and faster income growth
- B. higher inflation rate and lower exports
- C. lower interest rates and higher exports
- D. lower inflation rate and slower income growth