

## SOLUTIONS

1. Christa's risk tolerance is determined by both her willingness and ability to accept market risk.

Currently, Christa's willingness to accept risk appears to be below average. Christa is ranked as "cautious" in her psychological profile, which would indicate a below average willingness to accept risk. This designation is not entirely consistent, however, with the risks Christa appears to have taken in her life. Like her father, Christa has demonstrated a willingness to take entrepreneurial risks. She has pursued an independent career path and learned to budget for the generally erratic nature of art sales. Such entrepreneurial risk-taking may be an indication of a higher willingness to accept volatility in her investment portfolio. It may also be that Christa, like many entrepreneurs, perceives herself as having control over her high-risk endeavors. She may be less willing to accept the risk of investment markets over which she feels less direct control.

Christa's ability to accept risk is average to above average. At 25, Christa is a young investor with a long investment horizon. Her new portfolio is substantial, at least from the perspective of an artist who has been able to support herself with annual art sales of €50,000. It may not be substantial enough, however, given her new annual spending plans.

Christa's below-average willingness and average to above-average ability to assume investment risk support an overall classification of 'average' risk tolerance.

2. Need for cash:
  - Ongoing expenses: €132,500/year
  - Emergency Reserve: €132,500
  - Anticipated income: €50,000/year art sales
  - €82,500/year expected total return on portfolio (subject to risk)
  - €1,020,000 after-tax from sale of IngerMarine

assume investment risk support an overall classification of 'average' risk tolerance.

2. Need for cash:

Ongoing expenses: €132,500/year

Emergency Reserve: €132,500

Anticipated income: €50,000/year art sales

€82,500/year expected total return on portfolio (subject to risk)

€1,020,000 after-tax from sale of IngerMarine

The after-tax proceeds from the imminent sale of IngerMarine are well in excess of her anticipated needs for cash for the coming year ( $2 \times €132,500 = €265,000$ ). Thus, Christa's liquidity needs are currently met. Because portfolio returns are risky and her anticipated annual income of €132,500 just covers her annual cash needs, however, Christa may face liquidity requirements at some point in the future.

3. After the sale of IngerMarine, Christa's portfolio will have a market value of roughly €1,120,000, taking account of the after-tax proceeds from the sale of IngerMarine (€1,020,000), her balanced mutual funds (€75,000), and her money market fund (€25,000). Her expected portfolio return is €82,500, equal to 7.4% as a rate of return on her portfolio. Her required real return, if spending is reduced by combining her apartment and studio, is €50,000 (art sales of €50,000 less €100,000 expenses), or 4.5% as a rate of return on her portfolio.

Because the portfolio's expected return of 7.4 percent translates to a real return of approximately 4.4 percent (7.4% less 3% inflation), the portfolio is *not* expected to meet the return requirement of 4.5 percent.

4. **Portfolio guidelines and investment policy should be reviewed whenever a significant change occurs in the underlying assumptions of the policy statement. At Christa's portfolio performance reviews, the need for an interim re-evaluation of the policy statement should always be considered. Possible triggers for a policy statement review might include:**
  - A change in personal circumstances affecting risk/return objectives or portfolio constraints. Examples could include an increase in expected income from non-portfolio sources, uninsured health problems, and marriage.
  - A change in market conditions affecting long-term risk/return relationships among asset classes. Examples could include a shift in outlook for inflation and global political changes.
  - New investment markets or vehicles. Examples could include markets made accessible through commingled investment funds and Retirement Saving Accounts.
  - A change in tax laws. An example could be elimination of capital gains tax.
  - A severe performance shortfall, sufficient to jeopardize the portfolio's ability to meet expense needs in excess of income from other sources.
  
5. Hans' reckless actions will significantly reduce his portfolio. Hopefully this incident will

5. Hans' reckless actions will significantly reduce his portfolio. Hopefully this incident will make him aware of his financial vulnerability and the long-term consequences of his actions. The potential costs of the accident have created an immediate need for liquidity. Currently, Hans has a diversified equity portfolio valued at €200,000 and cash of €100,000. If he has not already done so, the cash should immediately be used to retain an attorney for his upcoming legal challenges. He should also make his financial advisor aware of his situation and instruct him or her to establish a high level of portfolio liquidity. Hans should also notify his father that a proportion of his holdings in IngerMarine may need to be converted to cash, if possible. Alternatively, he may be able to obtain a loan, using IngerMarine shares as collateral. If the IngerMarine holdings cannot be monetized, Hans may be able to borrow against the equity in his home.
6. In light of the auto accident, Hans must reassess his investment portfolio. Assuming that the legal challenges against him are successful, he stands to lose €1,000,000 in savings (after insurance). In addition, his legal fees may be large, resulting in a further decline in net worth. His salary has not been reduced, but depending on the outcome of his legal troubles, he may face job termination. Hans' investment personality profile classified him as a spontaneous risk-taker and his propensity to engage in riskier investing will have to be reevaluated. Even though Hans is young, his ability to take risk has been severely curtailed by the recent incident. His net worth may be reduced by as much as half, and he faces the potential loss of his current income. Hans will now need to consider rebuilding his life, engaging in lower-risk investing until his contingent liabilities are settled.
7. Peter and Hilda are subject to a flat tax of 25 percent on all income and a capital gains tax of 15 percent. The analysis below presents comparative after-tax returns. Even though the High Growth Stock Fund maintains high portfolio turnover, its return is high enough to