

GLOBAL INVESTING: Long view turns out to be risky business

Financial Times; Apr 1, 2002
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Conventional wisdom among investment professionals holds that the longer stock is held, the safer it is. For investors with long time horizons, such as young people saving for retirement, stocks are said to be a safe asset.

The longer the time horizon, the less likely is a shortfall - something that occurs if the value of a stock portfolio at the horizon date is less than what an investor would have received by investing in safe bonds, such as Treasury bonds, maturing on that same date. And history does suggest that the expected average compound return on stocks exceeds the risk-free rate of interest.

However, the probability of a shortfall is a flawed measure of risk because it ignores the severity of the financial loss should a shortfall occur.

A measure that does account for both the likelihood and the severity of a potential shortfall is the price an investor would have to pay to insure against it. If stocks were indeed less risky in the long run, the cost of insuring against earning less than the risk-free rate of interest should decline as the length of the investment horizon increases. But reality is quite the opposite.

The structure of insurance against shortfall is effectively a put option with a maturity that is equal to the investment horizon and with a strike price that is set at the forward price of the underlying stock portfolio.

The put price, representing the cost of insuring against a shortfall, increases as the investment horizon lengthens.

This pattern is easily confirmed for maturities of up to three years by inspecting prices for exchange-traded puts on individual stocks and on broad stock-index portfolios. This is also true for proprietary pricing models that are used by investment and commercial banks to assess their own cost for longer-maturity puts that they sell over the counter.

For very long maturity puts, this cost ranges from one-third to a half of the value of the equity portfolio to be insured and so there is typically little commercial interest.

So the insurance cost - and hence the risk - of shortfall over long time horizons is anything but small.

What are the investment implications of this finding? What about the popular notion that young people should, because of their longer time horizon, put more money in stocks than the older investors?

Finance theory holds that there is no systematic relationship between an investor's age and the optimal proportion to invest in stocks.

However, one important way of determining an investor's best asset allocation is the time and risk profile of his or her future labour income. The ratio of future labour income to other assets (such as retirement savings) is usually large when investors are young. It decreases as they approach retirement.

If one's future labour income is relatively secure, it may be best to start out in the early years with a high proportion of an investment portfolio in stocks and reduce it over time as suggested by conventional wisdom.

But, conventional wisdom may not apply to those who face substantial risk in their labour income - entrepreneurs or stock brokers, for example, whose income is highly sensitive to stock market risk. For such investors, their human capital already provides a large stock market exposure and the opposite policy may be best; that is, to start out with a relatively low fraction of the portfolio in stocks and increase it over time.

What does our finding imply about investment policy for guarantors of defined-benefit pension annuities such as US plan-sponsoring corporations and the Pension Benefit Guaranty Corporation (PBGC) that back them? Corporate pension benefits are long-duration annuity payments fixed in dollar amount, and their present value is extremely sensitive to changes in long-term interest rates.

Currently in the US, pension fund assets securing those promised benefits are about 60 per cent invested in stocks. As guarantors of pension benefits, plan sponsors and ultimately the PBGC bear the risk of a shortfall between the value of insured benefits and the assets securing those benefits.

As we have seen, stocks are not a low-risk hedge against these fixed-income liabilities, even in the long run. Exactly the opposite is the case: when a pension plan sponsor invests the pension assets in stocks, the cost to that firm and to the PBGC of providing a guarantee against a shortfall increases rather than decreases with the length of the time horizon, even for plans that are currently fully funded. The author is professor of economics and finance, Boston University School of Management

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