

# Investment strategy for the long term

Nobel Prize winner William F Sharpe explains the principles that underlie modern investment theory and how an investor can use them to craft an individual and lifelong plan

**Investment is about risk** and expected return. No one likes risk and the higher an investment's expected return, the better. Textbook descriptions of the investment process use these observations to divide investment strategies into two types. Inefficient strategies incur risk that is not rewarded sufficiently with higher expected return. Efficient strategies provide the highest possible expected return for a given level of risk.

A key job for the financial advisor is to avoid inefficient strategies. This is not a trivial pursuit. It requires estimates of risks and expected returns for individual securities, asset classes, industries, countries and currencies. It also requires estimates of correlations, which indicate the extent to which such investments are likely to move together or separately.

Expected return and risk are typically measured using short horizons. But most investors are concerned with longer-term outcomes. To make a meaningful choice among sensible investment strategies an investor needs to see the implications of each one for his or her needs and desires. For example, what might be the value of a \$1 million portfolio in ten years if \$50,000 is withdrawn each year? How would the answer be affected by the investment strategy chosen?

## **Making saving and spending decisions**

With very rare exceptions, such questions cannot be answered definitively with a single number. However, skilled financial advisors should be able to provide estimates of the chances that an outcome will exceed some predetermined amount. When the strategy is aggressive, the chances of exceeding a high goal are higher (good), but the chance of exceeding a low goal is lower (bad). Summaries such as this can help investors make the difficult choices that lie at the heart of investment decision-making.

Projections can also help an investor determine the most appropriate level of saving (while accumulating) or spending from accumulated wealth. The higher the level of saving or the lower the level of spending, the better will be the chances of exceeding future goals. A skilled financial advisor can use projections to help a client make saving and spending decisions as well.

Methods for finding efficient strategies and projecting their results come from the field of financial economics known as portfolio theory. Such theory prescribes methods to be used once an investment advisor has good estimates of security risks, returns and correlations. But how are such estimates to be obtained, and what should be their characteristics? The field known as capital market theory focuses on these questions. More specifically, such theory deals with the ways in which asset prices are determined and the resulting relationships among expected returns, risks and correlations.

Roughly speaking, an efficient market can be defined as one in which prices reflect the best possible set of predictions about the chances of alternative future outcomes. Those who assume that markets are efficient adopt passive or index investing strategies, named as such since they involve low portfolio turnover and tend to track the market. Those who believe that they can make better predictions than those reflected in market prices adopt active strategies, which involve more turnover as predictions change. In practice, most investors fall along a spectrum from highly passive to highly active. But those who choose highly active strategies almost certainly incur higher costs in their search for securities that may or may not be mispriced.

In an efficient market, the best portfolio for a representative investor will include all the marketable securities available in the world, in proportion to



**Investment strategy is one of the key pillars of a financial plan that allows investors to efficiently pursue their goals**

their out-standing amounts. Such a world market portfolio would have, say 1% of all the shares of IBM stock, 1% of each type of bond issued by the Swiss government, and so on. The prototypical representative investor is a conglomerate of all investors, rich and poor, from every country, with those having more influence on security prices (such as the richer) counted more heavily than those with less influence.

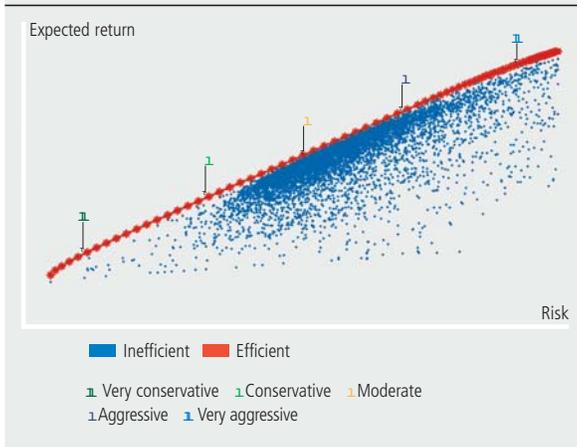
#### **Understanding the representative investor**

To select an appropriate investment strategy it is useful to start with the world market portfolio. Next, ask how a particular investor differs from the representative investor, and tilt the portfolio in the relevant directions. For example, the representative investor spends money all over the world. If a client spends money primarily in the eurozone, a strategy designed with the euro as a base currency should be chosen. If a client is less tolerant of risk than the representative investor, the portfolio should be tilted toward more conservative investments.

In an efficient market, high-risk efficient portfolios will have higher expected returns than low-risk efficient portfolios. But this need not be the case for individual securities or even broad classes of assets. Why? Because some kinds of risk can be reduced or eliminated by diversification. In an efficient market only risks that must be borne by someone will be rewarded with higher expected return.

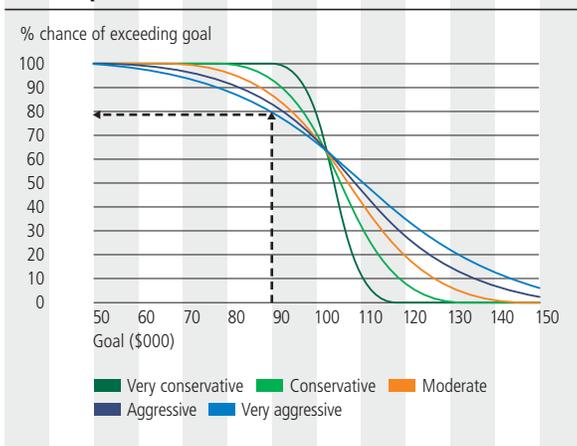
The first efficient capital market theory, the Capital Asset Pricing Model (CAPM), concluded that only one type of risk would be rewarded with higher expected return—the risk of doing badly in bad times. Such risk was stated in terms of a beta value. For example, a security or portfolio with a beta of 0.5 would be expected to fall half as much as the world market portfolio in a bear market (for example, 5% if the market fell 10%). A security or portfolio with a beta of 1.5 would be expected to fall 1.5 times as much (15% if the market fell 10%). The higher an asset's beta (bad news) the greater its expected return (good news). In a CAPM world, only beta risk is rewarded.

## Choosing efficiency



The difference between an efficient strategy and an inefficient one is usually displayed with a graph like the one above. Each point shows the risk and expected return of a possible investment strategy. The blue points are inefficient and the red ones efficient

## An explicit trade-off



It can be seen that if the very aggressive strategy is adopted, there is an 80% chance of exceeding a goal of having an ending portfolio value of \$90,000. But this goal is not especially ambitious and more conservative strategies provide better chances of exceeding it

## Predictable inefficiencies

A number of financial economists and professional money managers believe that other factors may influence expected returns. Such factors are often associated with broad asset classes—European stocks and Asian stocks, or growth and non-growth stocks. These approaches may be based on a more complex notion of efficient markets or on the belief that investors make repeated errors in the same direction, resulting in predictable inefficiencies. These alternative approaches lead to a characterization of an investment strategy in terms of its exposures to movements in broad asset classes. Instead of one beta, a strategy may have several. And a portfolio's expected return may be related to all its beta values.

What about a strategy that chooses to concentrate on a small number of securities within a broad asset class? Such an approach will have added risk but will it have added expected return (an alpha)? In an efficient market the answer is no. Beta risk is rewarded but alpha risk is not.

Once a relatively small set of asset classes has been selected, there are two approaches for choosing an investment strategy. The first approach assumes that all investments will be made in zero-cost index funds, each of which holds all the securities in an asset class in proportion to shares outstanding. Projections are made using this assumption and a strategy is chosen to match the model portfolio. But the actual implementation is likely to differ from the one assumed when the strategy is chosen. Even if index funds are used, they will have costs. If actively managed funds are used there will be added risks, added costs and alphas—either positive, zero or negative. The range of likely outcomes will differ from that assumed when the strategy was chosen. Moreover, the implementation will be sub-optimal.

## Using estimates of beta

The alternative approach is more difficult but more realistic. The actual vehicles that might be chosen to implement a strategy are chosen concurrently with the strategy. Instead of choosing, say, a mix of domestic and foreign equity, domestic and foreign bonds, the investment advisor analyzes the possible outcomes for different combinations of the specific domestic equity funds, foreign equity funds, domestic bond funds and foreign bonds funds that might be

utilized, taking into account all the relevant aspects, including (importantly) taxes. Detailed and realistic analysis of this type results in more relevant projections and more efficient combinations of actual funds.

When done appropriately, this more relevant approach still relies on estimates of beta values vis-à-vis major asset classes to estimate the efficient market expected returns of specific funds. In addition, it uses estimates of fund costs, additional risk and projected alpha values. It allows for more customization of a strategy to take into account the needs and circumstances of the client and the strengths of the investment advisor. For those with substantial balances it is well worth the added time and effort.

Almost by definition, an investment strategy is designed for medium- to long-term investment. It relies on estimates of expected returns, risks and correlations projected to apply over substantial periods. While it is tempting to base such estimates on recent experience in capital markets, this is generally not a good choice. The ability to identify broad asset classes that will do especially well in the future would be extremely valuable. Information that would enable one to do so will be sought by many investors. As they try to act on such information, prices will adjust to restore equilibrium relationships. Attempts to beat the market thus carry the seeds of their own destruction.

An investment strategy is not an approach for short-term trading. It is, instead, the key element of a plan designed to take into account the needs and circumstances of a particular investor. Together, a financial advisor and an investor can use the tools of financial economics to craft an investment strategy that will be both efficient and suitable for the investor in question. /

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Investors should keep in mind that investing in securities of foreign companies and governments involves considerations and potential risks not typically associated with investments in domestic corporations and obligations issued by the U.S. government. An investment could be subject to risks associated with changes in currency values, economic, political, and social conditions, the regulatory environment of the foreign country, as well as the difficulties of receiving current and accurate information.

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