

Asset Allocation

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THE SEVERITY OF THE RECENT MARKET DECLINE has caused many investors to get out of stocks altogether and move into Treasury bills. Unfortunately, this may be an example of leaping out of the pan and into the fire. In order to have a good investment experience, most investors will need a healthy commitment to equities.

A good investment experience is one in which returns are high enough to allow for a reasonable level of consumption. “Consumption” can mean maintaining a standard of living in retirement or meeting some other goal related to the purchasing power of assets.

In order to maintain a standard of living, most investors need investment returns significantly above inflation. “Real” returns usually refer to returns in excess of inflation. If investors consume more than the real return, the real value of their assets declines. Most of the returns we see in print are “nominal” returns, where the nominal return is calculated as the percentage change in price or the price change plus the income yield. If the purchasing power of an investment is to be maintained, real returns are what we can consume.

Suppose, for example, inflation is 3% and investment returns are 3%. By reinvesting all of the return, an investor can maintain the real value of his asset. But this would not allow for any consumption.

Historically, Treasury bills have returned about 4% per year, while inflation has been about 3%. The real return is then about 1%. If an investor consumes 1% of his assets

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while reinvesting 3%, then he can maintain the real value of his investment. Of course, if he must pay taxes, then the real return from Treasury bills may be zero or negative, and he cannot consume anything if he wishes to maintain the real value of his assets.

By comparison, the real return from stocks has been about 6% per year. An investor is obviously more likely to be able to maintain his standard of living if he achieves a real 6% return than he can with a 1% real return. But that requires taking equity risk.

Few investors can provide for their long-term consumption needs with a real return of 1%. If they can, they might as well not take any equity risk and put all their money in Treasury bills. In order to have a reasonable chance of maintaining a consumption level over a long period of time, such as retirement, most investors will have to invest some portion of their assets in stocks.

Of course, investing in equities incurs the risk of loss of principal. Even if an investor has a long time horizon, the risk of equities does not go away. Nevertheless, investing some proportion in stocks gives most investors the best chance of having a good investment experience.

This is the planning problem. For most people, there is no riskless way to invest that produces the desired real returns. On the one hand, if they invest in risky assets, such as stocks, there is no guarantee of success. On the other hand, if they invest only in Treasury bills, they will almost surely have inadequate real returns.

The planning problem may be illustrated by example. Suppose an investor invests 100% in Treasury bills and achieves a 4% nominal return with 3% inflation. Suppose further that he has \$1 million to invest and would like to withdraw \$30,000 a year in current dollars to finance his consumption. In other words, he spends \$30,000 at the beginning of the first year, which is only 3% of his initial assets. Eventually, since his consumption increases by 3% per year while he receives only a 1% real return, the value of his assets starts to decline.

Exhibit 1 plots the change in assets and consumption for this investor. In 40 years, his assets go to zero and he is completely wiped out.

Exhibit 2 displays what happens if consumption is increased to 5% of the initial asset value. If the real investment return is 1% per year, assets are depleted in 29 years.

Of course, the US Treasury only guarantees nominal returns; it does not guarantee positive real returns. There have been long periods of time when returns on Treasury bills did not even keep pace with inflation. For example, an investor investing in Treasury bills at the beginning of 1933 would have had to wait 65 years before getting back the real value of his investment. And, that assumes he paid no taxes.

Exhibit 1

Risk Tradeoff: Spending Requirement of \$30,000
Assumptions: \$1,000,000 Initial Investment, Nominal Return = 4%,
Inflation = 3%, Real Return = 1%

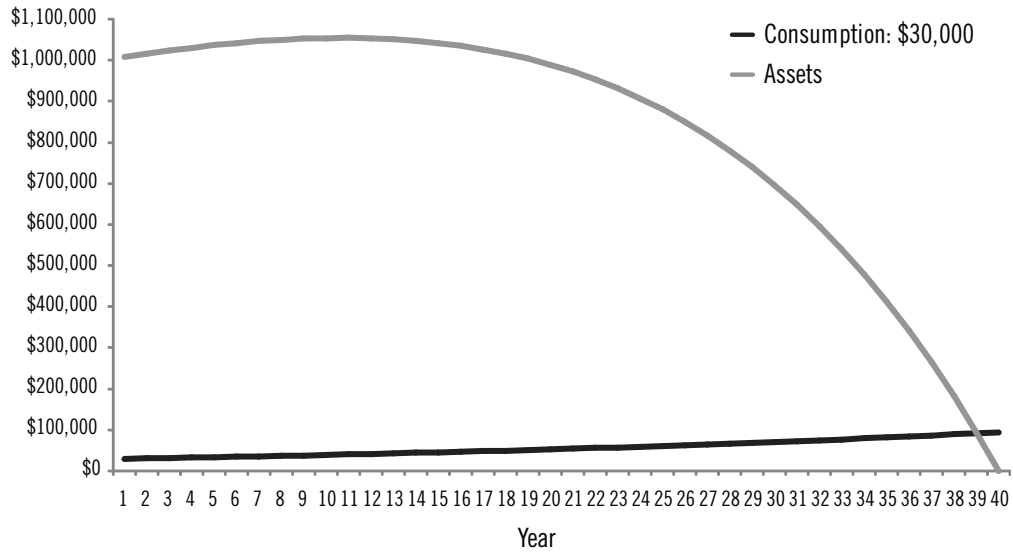
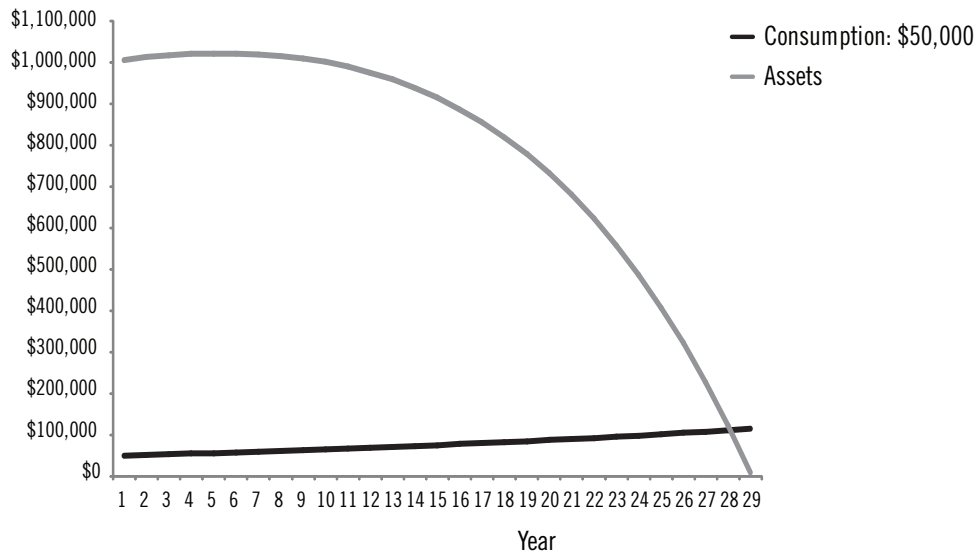


Exhibit 2

Risk Tradeoff: Spending Requirement of \$50,000
Assumptions: \$1,000,000 Initial Investment, Nominal Return = 4%,
Inflation = 3%, Real Return = 1%



Charts are for illustrative purposes only.

There is no asset mix that is right or wrong for all investors; each investor's situation is different. One approach to deciding on an asset allocation is to examine the historical results for various combinations of risky and riskless assets.

The table below displays results for six portfolio combinations, from 100% CRSP 1-10 Index to 100% Treasury bills. The CRSP 1-10 Index tracks all publicly traded stocks created by the Center for Research in Securities Prices at the University of Chicago. The data are total returns, before taxes, from January 1926 through March 2009.

Table 1

Hypothetical Portfolio Combinations
Inflation-Adjusted Returns
January 1926-March 2009

Portfolio Weights		Inflation-Adjusted Performance		Inflation-Adjusted Ten-Year Rolling Returns	
CRSP 1-10 Index	Treasury Bills	Annualized Return	Annualized Standard Deviation	Worst Ten-Year Total Return	Worst Ten Years Ending Date
100%	0%	6.0%	18.9%	-39.6%	2/28/2009
80%	20%	5.2%	15.1%	-30.9%	2/28/2009
60%	40%	4.3%	11.4%	-22.0%	11/30/1978
40%	60%	3.2%	7.7%	-17.2%	11/30/1948
20%	80%	2.0%	4.2%	-29.4%	11/30/1948
0%	100%	0.7%	1.8%	-42.1%	2/28/1951

Rebalanced monthly. US Treasury bills and inflation data © Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). CRSP data provided by the Center for Research in Security Prices, University of Chicago. CRSP is a research center at the Booth School of Business (founded in 1898) of the University of Chicago. The nonprofit center also functions as a vendor of historical data. CRSP end-of-day historical data covers roughly 26,500 stocks—active and inactive—listed on the NYSE, NYSE Amex, Nasdaq, and ARCA exchanges. OTC bulletin board stocks are not included. Indices are not available for direct investment; their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results.

The middle two columns display summary statistics. The annualized real returns are 0.7% for Treasury bills and 6.0% for stocks. Stocks have provided the kind of real returns needed for long-term consumption, but at considerable risk. The standard deviation of returns increases monotonically for the portfolios as the percentage invested in stocks increases. The greater the investment risk, the greater the historical return.

The two columns to the right display the worst ten-year real returns for the portfolios. The worst ten-year period for Treasury bills was the decade ending in February 1951. Nominal returns for Treasury bills were less than 1% per year, while inflation was greater than 6% per year. The time period we're in now is interesting because Treasury bills are once again below 1% and concerns about inflation are beginning to mount.

The worst ten-year period for stocks was the decade ending in February of this year. It is not too surprising, then, that we see many investors panicking. We have just lived through the worst decade for stocks in 83 years.

The worst ten-year period for Treasury bills, -42.1%, was lower than the worst ten-year period for stocks, -39.6%. The portfolio combination with the best “worst case” ten-year period was the one with 40% stocks and 60% Treasury bills. The worst result for the 40/60 portfolio was better than the worst results for either stocks or Treasury bills.

It is easy to see why many investors have equity commitments that cluster in the 60% to 70% range. That range has produced significant real returns while dampening some of the volatility of stock returns.

In summary, the desire to avoid investment risk is understandably quite high right now. We have just experienced the worst decade for stocks on record. This is an appropriate time to review how much investment risk to take. For a fortunate few, it is possible to invest only in riskless assets and have a good investment experience. For most, the best chance of having a good investment experience involves taking some risk by investing in equities. There is no way to guarantee success, which is why careful planning and thought are important.