

How does holding different mixes of stocks and bonds affect the ups and the downs in your portfolio? So look at this graph here of the returns, over about a 10-year period, for two funds. The Vanguard Total Stock Market Index Fund, that's the red line. And the Vanguard Intermediate Term Bond Index Fund, that's the green line. The blue line is the return on a portfolio that's split equally between the stock and the bond indices and rebalanced monthly.

I'm showing you the graph to make a couple of points. The first is that stock portfolios have much bigger ups and downs than bond portfolios. If stocks are the Big Dipper, bonds are the Mini Coaster. A combination of the two lies somewhere in between. So you have some control over how wild of a ride you take, though not necessarily where you end up.

You know, graphs like these are informative. But even perfectly valid graphs can deliver very different messages. For example, I can make bonds look better by simply changing the 10-year period that I look at. And even with the original graph and exactly the same data, I can make stocks look safer by stretching out the horizontal axis or make them look riskier by stretching out the vertical axis.

I'd like to take a look at some different target date funds to see what sort of asset allocations they use. Here is the asset allocation for Vanguard 2045 fund. The fund allocation is almost 90% in stocks and 10% in bonds. Digging a little deeper, we see that the fund holds 63% US stocks, 27% international stocks, 8% US bonds and 2% international bonds. Why international holdings? Investing in both US and international stocks dramatically lowers the volatility of your portfolio. During the period 1970 to 2006, allocating a third to half of your stock investment to international stocks resulted in much lower volatility than investing 100% either in all US stocks or all in international stocks. Holding some international bonds also reduces volatility, though not by nearly so much.

The 2045 target date funds for Fidelity, T. Rowe Price, TIAA-CREF and Schwab all have similar allocations. Schwab's international equity allocation is slightly lower. But if you add in the global real estate category, investments in international real estate trusts that trade on the stock market, their international equity allocation is close to the other funds. While the fund allocations are similar, the costs at the five companies vary significantly.

On an investment of \$10,000, the annual fees range from less than \$19 a year to almost \$82 a year. The fees on target date funds won't be as low as on S&P 500 Index funds because some of the underlying investments, such as international equities, are more expensive to provide. So you should compare fees on similar funds. And while differences of \$1 or \$2 in annual fees on an investment of \$10,000 are not

much, differences of \$50 or \$60 are substantial and will significantly affect what you earn for your retirement.

So as always when buying mutual funds, pay attention to fees. All these companies are putting around 90% of their 2045 portfolio in equities, that is in stocks, with almost one third of that in international equities. All of these equity allocations are substantially higher than those recommended by the experts. Why? One reason for holding more equities in your investment portfolio is that most of us already have an implicit investment in US bonds through Social Security. When Graham, Bogle, and Quinn recommend asset allocations, they're including Social Security and traditional pensions on the bond side of the portfolio. So if you consider that you have an investment in Social Security, the asset allocation of target date funds and the recommendations of the experts aren't all that different.

Whether starting with a target date fund or the expert recommendations, there are a few things you should think about when choosing your own allocation.

One is how your portfolio is doing relative to your goals. If your portfolio delivers unusually good returns as you're approaching or into retirement, you may want to trim back some of your risk. A target date fund isn't going to do that for you, you're going to have to make the adjustment. You should also consider your other investments. Traditional pensions are, in many ways, similar to investments in bonds. So if you have a traditional pension, you can afford to hold more equities in your retirement savings portfolio, even as you get older. If you own substantial equity in your home, you can take somewhat more risk in your financial investments because less of your total wealth is in those financial investments. The same is true if you own other assets, such as rental properties.

If a sudden drop in the market would cause you to sell all your stock funds, you may want to reduce the risk in your portfolio before that happens. Take a look at the video on risk tolerance. We've been talking about asset allocation as you save for retirement. If you're getting close to retirement age, there's one more investment you may want to consider. That's a deferred income annuity, or what's sometimes known as longevity insurance. We're going to discuss this investment in greater detail later in the course. But basically, you make a lump sum payment to an insurance company, and some years later the insurance company starts paying you a guaranteed amount every month for the rest of your life.

Let's sum up. In your retirement account, you'll want to allocate your assets between domestic stocks, international stocks, and domestic bonds. You can include some international bonds as well, but it usually won't make a large difference. Experts recommend that you decrease your allocation to stocks as you get older. You can go with a rule of thumb, such as allocating a percentage equal to your age to bonds and the rest to equities. But remember, your Social Security and any traditional pension you might already have are like being invested in bonds. Target date funds make the asset allocation choice for you, and adjust that allocation as you get older. Whether you go with a rule of thumb or invest in target date funds, consider your own circumstances. Do you own your own home? Do you have other substantial investments? If you were to reduce the risk in your portfolio today, would you already have enough money to meet your retirement needs? And if the market were to crash, would you be OK sticking with your portfolio as it's currently allocated? Investing isn't only about saving and making decisions. Nor is it all about roller coaster graphs and pie charts. At some point, you get to enjoy the fruits of your investing. Today, I'll go with blueberry.