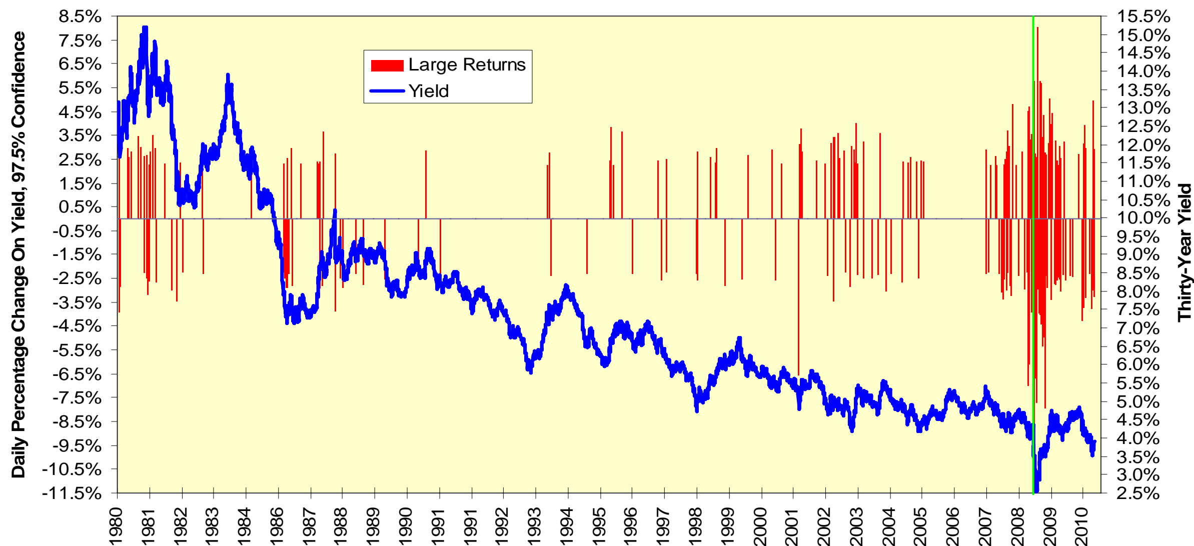
Long Bond Price Volatility Increasing

Chaos theory is one of those things that somehow always looked like it should be more useful than it actually was; it recalls the late Merton Miller's putdown of behavioral finance as "A series of anecdotes in search of a theory." But both chaos and behavioral finance are useful intellectual constructs and help provide a structure to what might otherwise be a barroom brawl.

One phenomenon described by chaos is a "phase change;" think of this as a column of cigarette smoke rising in a straight column and then suddenly becoming turbulent. The long end of the Treasury market began a phase change during the financial crisis of 2008. Once Citigroup was bailed out in November 2008 and Tim Geithner was nominated to be the new Secretary of the Treasury on the same day, marked with a green line on the chart below, the phase change acquired some measure of persistence. It is as if a desert suddenly became a rainforest and remained a rainforest to the befuddlement of the resident cacti.

Distribution Of Large Changes In Thirty-Year Bond Yield



What we see in the chart above is the course of thirty-year Treasury yields going back to 1980 and daily percentage changes in those yields lying outside of a 97.5% in-sample confidence interval. Those days, marked with red, have become a common occurrence, have they not?

Now let's return to the behavioral aspects. We become accustomed to a given state of affairs – remember the "Great Moderation" of the last decade? – and presume it will last forever; we then acclimate ourselves to the next persistent state. This works in all aspects of investing; by the early 1980s, stocks were unloved and everyone thought they would remain unloved. Then they became loved until 2000, at which point few investors could believe what the next decade would look like. Now stocks are unloved again. Rinse and repeat; this is simply the way of the world.

But higher bond volatility has consequences. One of the odder consequences of fixed-income mathematics is the price volatility of long-term bonds will rise as yields fall as the dollar value of each basis point increases. A more volatile asset is a riskier asset, and a riskier asset has to get priced lower or bought in lower quantities to compensate. As corporate bonds are priced as a spread to Treasuries and as stocks have to compete with corporate bonds, the persistent and greater volatility in long-term Treasury yields has affected risk acceptance in equities. It cannot work otherwise, and "cannot" is a very strong term not used lightly in these parts.

This is why investors should start to lower their duration risk and shift out of longer-dated Treasuries even though these Treasuries may have a price pop ahead of us. The duration of a current thirty-year Treasury is 17.70 at present; this means the bond will lose 17.7% of its principal, more than 4.5 years of coupon income, if long-term rates rise 100 basis points. This is a statement and not a forecast as I do not expect an imminent rise in rates, but no one ever expects the grenade to land in their lap, do they? The time to manage risk is when there is no need to manage risk.