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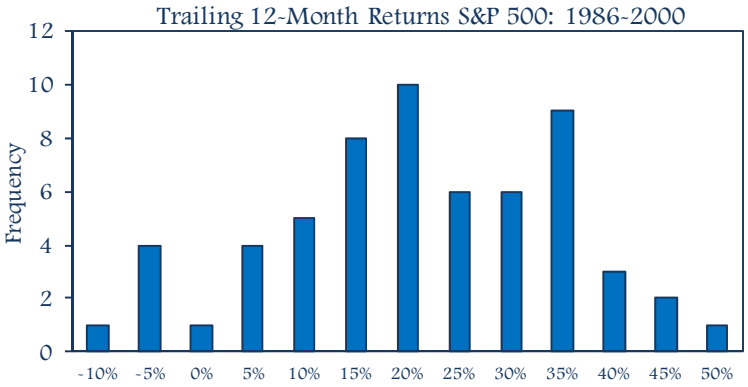
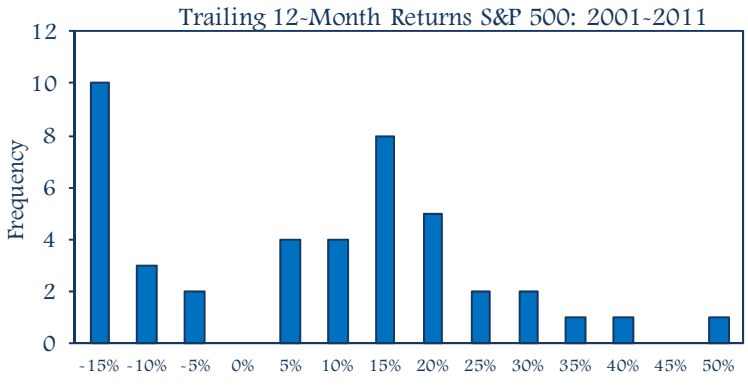
INVESTMENT UPDATE

Agincourt Capital Management, LLC

For this month's *Investment Update*, we considered adding our voice to the rising din of commentary on the Euro debt crisis. But what can we bring to the discussion that you, patient reader, would be interested in hearing? Besides, we've already written about the need for fiscal discipline, both here and abroad, and of the dangers of shifting private sector risk to the public sector. So instead of rehashing the fiscal sins of the Western World, we're going to take on a far more simple topic: nothing less than a critical look at modern portfolio theory!

MPT, as it is taught to college business majors, is the idea that we can construct the best risk-adjusted investment portfolios through the careful selection and blending of certain assets. The foundation of MPT is that every asset class has well-defined risk and return characteristics, and that there exists an optimal blend of investments based on historical observations of these risk/return characteristics. Modern portfolio theory has, for decades, been the very foundation for US pension funds, as well as individual retirement and investment accounts. We have all been conditioned to respect the importance of asset allocation, where the optimal blend of investments, each with different and offsetting risks, work together to place a well-diversified portfolio on the "efficient frontier."





But let's back up a moment. Before we can talk about a portfolio of investment assets, we need to know something about the individual assets themselves. For that we look to another financial theory, the capital asset pricing model. The CAPM tells us that each investment asset has a rate of return, based on the cash flows that asset is expected to generate over its lifetime. By knowing its rate of return, and the volatility of the cash flows, we can arrive at a price for that asset.

It is precisely the "volatility" of cash flows that has traditionally been the hang-up for this model, and thus, modern portfolio theory in general. As with all models, the CAPM is riddled with assumptions—including those that assume investors have perfect information, are rational, have no tax implications—but the biggest assumption is that the returns of each asset are more-or-less "normally" distributed. What this means, in layman's terms, is that there is an expected return from a given investment, and any variation around that expected return is gradual in nature; that is, small variations around the expected return are common, but big outliers from the expected return are rare. The top graph on this page shows a typical normal distribution; by their appearance, these are often also referred to as "bell-shaped" distributions.

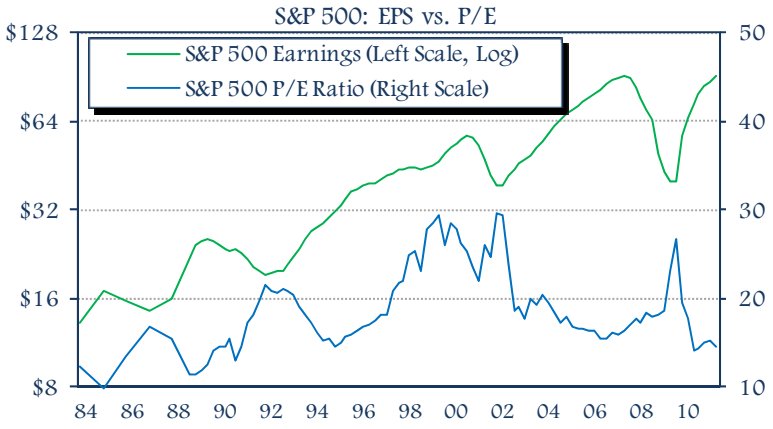
This top chart shows the trailing one-year returns on the S&P 500 for the15-year period covering 1986 to 2000, on a quarterly basis. These 60 data points are grouped by how often the returns fell into a certain range. For instance, during this period (a torrid bull market, it must be said), the S&P 500 returned between 15% and 20% on ten different occasions, the most frequent observation. The average return of the S&P 500 over this time period was a little over 18%—right in the middle of the distribution. This is a classic, "normal," bell-shaped distribution of returns, with very small "tails" on the ends and a more-or-less symmetric distribution of results.

In fact, if we looked at the long history of post-World War II stock market returns here in the US, we would see a fairly normal-looking distribution of returns. But (and this is a big "but") recent history has not produced results anywhere close to normal, and the results of this recent history have been nothing short of disastrous. The bottom chart tells the story: This data covers the subsequent period to the top chart, namely, the last ten and one-half years, a very difficult period for equity investors. This chart shows a markedly

skewed distribution to the left, indicating more instances of low returns. These disappointing returns have occurred far more frequently than we would expect in a normal distribution. How much more frequently? Of the 42 data points in this time period, more than 1/3 fall into negative territory. The average annual return over this period has been a paltry 2.75%.

This distribution shows what statisticians call "tail risk;" the risk that the outcome will not follow a normal pattern of predictable results where the instances of unfavorable outcomes are remote, but rather, where unfavorable results have occurred far more often, and with highly negative implications. Any model that is built on the assumption of a normal, bell-shaped distribution will falter, if not out-right crumble, when the tail risk turns out to be much higher than expected.

Episodes of "nasty tails" have reared their heads time and again in the financial markets over the years, often with devastating results. The most dramatic recent example was the meltdown of securities backed by subprime mortgages, whose modeling erroneously assumed that the variability of home prices would remain within a fairly tight band. Many of these securities couldn't even stand a moderate decline in home prices, given the highly tenuous credit profile of the typical subprime mortgage holder. With home prices declining by 30 to 35 percent, these bonds have been all but wiped out.



But back to the stock market. Stock prices go up for two main reasons: Either earnings grow (and therefore the value of the company goes up), or people decide to pay a higher multiple for each dollar of earnings (the so-called expansion of the price -earnings ratio). The first reason is fundamental, the second is far more tied to investor sentiment and other technical factors.

The chart on this page shows that earnings per share (EPS) of US companies (again, using the S&P 500 as a proxy) have grown at a steady, but increasingly irregular, rate over the past two and a half decades. The 1985-2000 period that produced the normal, bell-shaped distribution of stock returns saw earnings grow by roughly 8% per year; in the more recent period since then, EPS have grown by less than 5% annually.

But the biggest change, from a stock market valuation standpoint, is that the price that investors have been willing to pay for a dollar's worth of earnings, the P/E ratio, has fallen during the more recent period (it did pop up in 2009, only because the "E" was so depressed during the recession). Admittedly, P/E's became way overvalued in the dot-com era, hitting a high of nearly 30, but today's ratio of 15 is anemic by almost any historical measure.

The fact is, investors simply aren't willing to pay up for US stocks right now. The last time P/E ratios stayed depressed for a protracted period was the early 1980's, when the stock market was coming off a similar period of weak earnings growth and a decade of poor equity performance. From a psychological standpoint, as measured by the P/E ratio, the stock market still has not recovered from the dot-com bust—and that negative sentiment has only worsened since the mortgage/financial crisis, and the subsequent recession.

But there is more at work than simply psychology. The collapse of the US housing market crushed household balance sheets, and high unemployment/underemployment has left consumers with little discretionary income, and no appetite for "playing" in the stock market. Long gone are the days of the guy down the street who quit his job to become a day trader. Furthermore, there are powerful demographic forces impacting investor behavior. The baby boomers are getting older, and their risk profile is changing. They've been told for years that stocks are for people with long time horizons, and that as one approaches retirement, equities should be phased out in favor of less volatile investment choices (e.g., bonds). Flow of funds reports have shown a steady decline, in recent years, of money going into equity mutual funds, and demographics are a big part of the explanation.

Which brings us back to modern portfolio theory. If we don't have a rising stock market, modern portfolio theory more or less fails. Higher stock prices are the rising tide that lifts all boats; they are the primary driver of investment returns that portfolio-building investors have depended on. No other asset—not bonds, not real estate, not hedge funds—can replace equities at the core of an investment portfolio.

The failure of MPT in recent years has left investors, and especially retirement funds, with tough choices: will plan sponsors dramatically increase contributions? Will they cut promised retirement benefits, or force participants to contribute to their plans? Some organizations are completely re-thinking the investment philosophy of their plans, including moving to liability-driven investment (LDI) strategies, which start from the perspective that future retirement benefits are quantifiable, and can be satisfied with a fixed income-heavy portfolio of assets that generate cash flows that will "match" (if not on a dollar-for-dollar basis, at least on a duration basis) the liabilities as they come due. Agincourt has seen growing interest, and more than a few new assignments, in LDI strategies over the past five years. Modern portfolio theory might not be dead, but its future is certainly in doubt.