Return Free Risk

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Return Free Risk

The title of this piece is not a mistype. It's a pun on the more usual expression "risk free return" used to describe the return on investment which can be obtained without incurring any risk to the capital sum invested. Prior to the current financial crisis this characteristic was assumed to apply to sovereign debt in the developed world. This has now been shown to be misconceived. So is the suggestion that in order to attain higher returns, investors must assume greater risk. But as a result of this assumption many investors are incurring unnecessary risk in their pursuit of high returns.

Efficient markets?

The efficient-market hypothesis (EMH) asserts that financial markets are "efficient" in that an investor cannot consistently achieve returns in excess of average market returns on a risk-adjusted basis.

Thus we are taught that achieving higher return is only possible with the assumption of higher risk.

Whilst this may strike a chord with investors' instincts that there is no such thing as a free lunch, there is a large and growing body of evidence that whilst it may fit with the EMH and investors gut instincts, it is not necessarily true in practice.

Less volatile stocks produce higher returns

Research by Robert Haugen of Haugen Financial Systems and Nardin Baker, chief strategist at Guggenheim Partners (source: **http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2055431**), shows that between 1990 and 2011 in 21 developed countries, the least volatile decile of stocks generated annualised total returns of 8.7% while the most volatile decile lost 8.8% pa. In US equities, the least volatile decile made average returns of 12% pa over the same period whilst the most volatile lost 7% pa. 12 emerging markets covered by the study for the period 2001-2011 produced similar results.

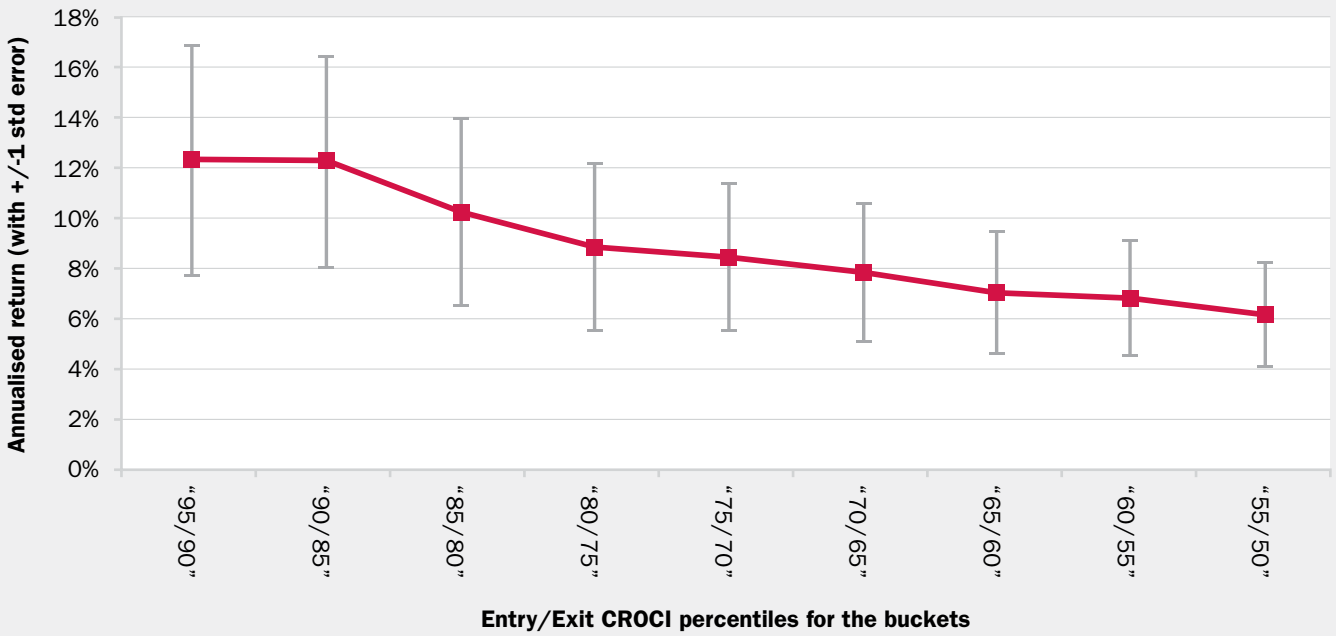
It is fair to point out that these studies are for relatively short periods, and that those were periods of disappointing performance for equities although it may surprise some investors to have 20 years described as a short period for assessing performance, and most of the period equities were in bull rather than bear markets. But maybe less volatile stocks will always do better than volatile stocks during bear markets.

I also have misgivings about taking stock volatility as a surrogate for the risk that investors are assuming. I am inclined to believe that risk is better defined by the underlying characteristics of the companies invested in than their stock price volatility which necessarily brings into play a number of factors which involve the behaviour of investors. But the results are nonetheless striking and tend to contradict the risk/return portion of the EMH.

So do good quality companies

A study by Goldman Sachs ("Paying for Quality: Is the market Too Cynical?" Goldman Sachs Portfolio Strategy Research 30th May 2012) brings in fundamental quality as a measure. The research covers the top 1000-1200 stocks in the Goldman Sachs Research database for the period 2007-2012.

Annualised excess returns of portfolios formed by the sorted perfect foresight CROCI ranks. The size of the standard error provides a measure of the risk in the individual bucket portfolio returns



Source: Goldman Sachs Research

This research defines quality on the basis of companies Cash Return on Cash Invested ("CROCI"), a measure we would agree with. It created portfolios based upon CROCI performance. The study shows quite clearly that market returns increase with relative CROCI.

Buffett

It seems that no piece of investment research is complete without some mention of Warren Buffett as at the very least an exception to the EMH. Andrea Frazzini of quantitative fund manager AQR and Lasse Pedersen of AQR and New York's Stern business school found that more than half of the outperformance of Berkshire Hathaway's stock since 1976 was simply attributable to buying high quality stocks (source: **http://www.econ.yale.edu/~af227/pdf/Buffett's%20Alpha%20-%20Frazzini,%20Kabiller%20and%20Pedersen.pdf**).

The source of the remaining outperformance which is unexplained by this is also interesting and we will return to that later.

Why does buying quality stock produce superior performance?

So there is research which suggests that buying quality stocks-whether low volatility or with superior cash return on capital characteristics-has produced better returns than the average, but why is this possible?

1. Over-paying for leverage with protection

Research by David Cowen and Sam Wilderman of GMO suggests that investors use volatile or high beta stocks to obtain upside potential with protection. For example, a long position in the market which is funded with equal amounts of debt and equity offers twice the upside on an unlevered position but also risk the loss of up to 200% of the investor's equity.

An investment in stocks which are more volatile than the market might offer the same upside potential but with the risk of loss limited to 100% of the investor's equity. Because of investors' natural reluctance to assume leverage and so risk losing more than their original capital, investments which offer unlimited upside without that additional downside risk are unsurprisingly often over-priced.

In contrast, long only portfolios of less volatile stocks seem to offer limited upside but still face 100% downside. This is a superficially unattractive combination for many investors, which may explain why investments of this sort may be under-priced.

2. The Lottery ticket effect

One way of explaining the apparently poor performance of high risk shares is the so-called lottery ticket effect. Gamblers seem willing to overpay for lottery tickets-beyond the price which the odds would justify-as they are paying a small amount (limited downside) for the possibility of a large gain (unlimited upside).

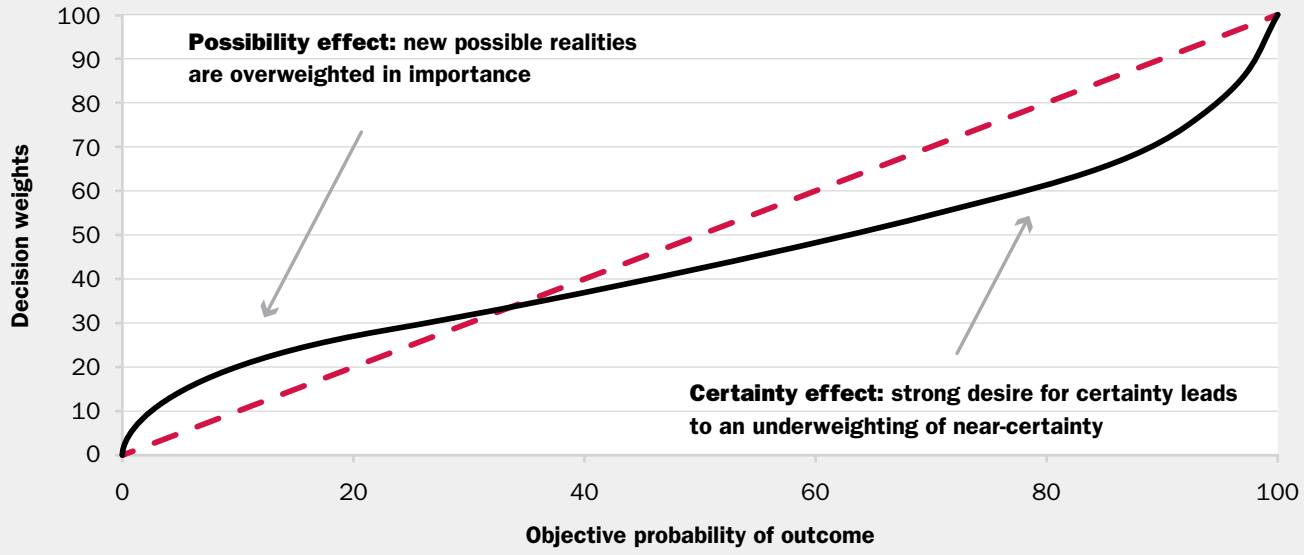
3. The sick relative

Imagine that you have a gravely ill loved one and you are offered the opportunity to purchase treatment which would enhance their chances of survival by 10%. What would you pay for that?

Research suggests that this depends upon their starting chances of survival without the treatment. If their chances were 50/50-they had a 50% chance of survival or death-then a 10% improvement would certainly be welcome and valuable. But imagine if their chances of survival prior to the improvement were nil. Purchasing the treatment would take them from a situation of certain death to having some meaningful chance of survival. I would suggest we would mostly pay significantly more to take their chances of survival from 0-10% than from 50-60%.

Similarly, most people would surely pay more highly for certainty-if the relative had a 90% chance of survival but by paying you could take this to 100% it would also be more valuable than taking it form 50-60%. This goes some way towards explaining why investors will buy a bond which yields less than an equity in the same company even where the nature of the business is such that the seniority right of the bond in liquidation is irrelevant. They desire certainty of outcome: the bond will pay a certain coupon, the dividend may vary, the bond should be repaid at maturity, but the price of the shares is unpredictable.

Objective probability and subjective importance

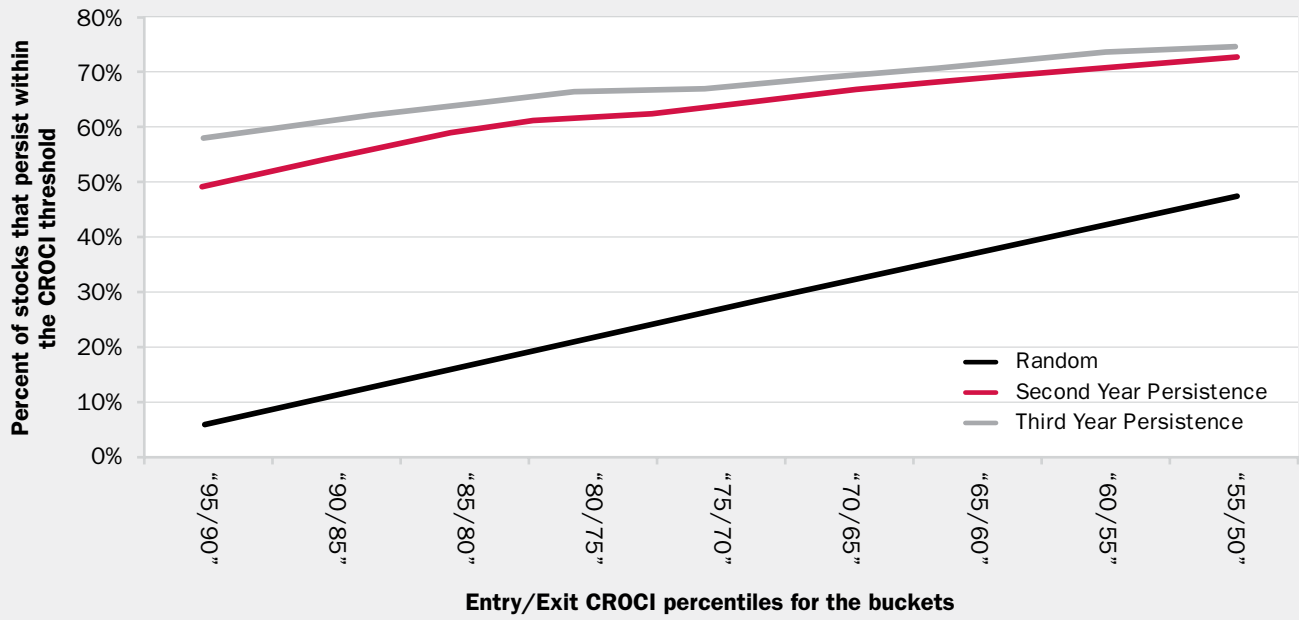


Source: Kahneman (2011), SG Cross Asset Research

This concept is illustrated in Daniel Kahneman's book "Thinking, fast and slow" by this chart.

The dotted line shows the objective probability of an event-in this case the patient surviving. The solid line is the "decision weight"- the psychological importance attached to each level of probability derived from laboratory experiments. You can see that from about a 0-30% probability of survival, lottery ticket or high risk stock territory, and the relative/gambler will overpay for a given level of probability. From about 30% to close to 100% they will underpay, but there is a sharp increase in the relative amount they will pay from about 90% probability to certainty.

How does this apply to stock selection? Looking at Kahneman's chart of probability versus decision weight, an increase in probability from 50-60% attracts an increase in decision weight of just six points. But an increase in probability from 90-100% attracts an increase in decision weight from 71 to 100%-a 29% increase or nearly five time the perceived worth of the rise from 50-60%. If similar psychology applies when people are selecting investments, this implies that near certainty will be undervalued. This is the world of low beta/high quality stocks. They have regular bond like returns and low share price volatility but they are still stocks with uncertainty about share price and dividend payments whereas bonds have the relative certainty of redemption values and coupons. This helps to explain why "boring" quality stocks tend to be consistently under-valued, and that under valuation is what helps to produce superior performance as investors are offered the chance to purchase more return for the level of risk assumed than they should be. We are able to underpay for every unit of cash flow we get from those stocks compared with what it should cost us if investors priced certainty of return consistently.



Note: On the X axis, bucket X/Y corresponds to stocks being included in the bucket if it ranks above X percentile and excluded from the bucket if it ranks below Y percentile.

Source: Goldman Sachs Research

4. Mean reversion

Some further light is thrown onto the reason for consistent undervaluation of quality company stocks by the theory of mean reversion. The Goldman Sachs research which looked at companies based upon their CROCI found that the chances of companies staying within the band of CROCI which it occupied from year to year was far more likely than could be explained by randomness.

This flies in the face of the theory of mean reversion. Mean reversion suggests that if a company has superior financial returns these will be competed away. New competitors and capital will enter the sector seeking these superior returns. The companies own capital allocation may be part of the cause of this trend. The Goldman research suggests that high CROCI companies had a tendency for this return to persist which not only contradicts the theory of mean reversion, but is also important if this theory on returns from low risk stocks is to be used for stock selection. It would not be much use if superior financial performance could only be observed in retrospect and its existence indicated nothing about the likelihood of recurrence or persistence to enable us to select them as investments.

It would seem that there are companies which have managed to find industry sectors which deliver superior returns, and which are able to sustain those returns contrary to the theory of mean reversion. In our experience, these are usually companies with brands, intellectual property, installed bases of equipment which they service, strong distribution networks and customer relationships, or some combination of these factors.

5. Leverage aversion

I said we would return to the question of what contributes the portion of Warren Buffett's superior investment performance which is not is attributable to the selection of quality stocks. The answer is gearing or leverage. He selects stocks with predictable and superior returns on capital and then uses other people's money to fund part of the purchase, so enhancing the return to his shareholders from the investment.

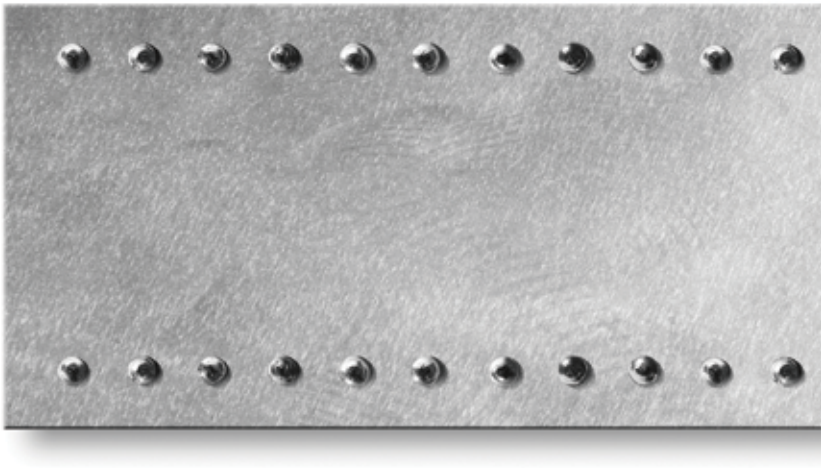
In Berkshire Hathaway's case the leverage is supplied by its insurance operations-Buffett is able to invest part of the premium "float" which it obtains from its insurance underwriting operations. In doing so he is able to access a source of leverage which has so far been cheaper than debt, and apparently safer and more controllable.

Investors who have sought to improve their returns by funding part of their positions with debt have often fallen foul of price fluctuations which cause margin calls they cannot meet usually at the most inconvenient moment, or the credit cycle in which credit is withdrawn not because of any problem with their credit but because of a problem with the lender.

It is possible that some investors seek high risk shares partly as a means of building leverage into their portfolio selections without directly incurring the risks of leverage with recourse to them. In so doing, they may be willing to overpay for those stocks returns; as a result of a phenomenon which Fischer Black of the famous Black-Scholes options pricing formula called leverage aversion.

What to do about this

The upshot of all this is relatively simple but nonetheless startling. Rather than seeking superior portfolio performance by buying high risk stocks, investors should seek out "boring" quality companies which have predictable returns and superior fundamental financial performance, and take advantage of their persistent under valuation relative to those returns to buy and hold them.



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