



The Absolute Return Letter May 2012

Don't Fight the Last War Lessons from the Battlefields of Risk Management

"In the science of physics, we know that water freezes at 32 degrees. We can predict with immense accuracy exactly how far a rocket ship will travel filled with 500 gallons of fuel. There is preciseness because there are constants, which do not change and upon which equations can be constructed."

Robert Wenzel, Editor of the Economic Policy Journal, speaking at the New York Fed

The year of the Archbishop

In the science of economics there are no such constants, yet investors often behave as if they operate in a world of logic and certainty. Because such assumptions are made, history is littered with investors who have failed miserably.

Before I go any further, allow me to take you back in history for a moment – more precisely to year 1,012. My Viking forefathers had already raped and pillaged their way through the British Isles for more than a century and King Knut was only six years away from bringing the Danish and English crowns together for the first, and last, time. Having been captured by the Danes the previous year in a raid on Canterbury, 1,012 was also the year that Ælfheah, the Archbishop of Canterbury, was brutally murdered by a Danish mob after he refused to be ransomed.

It was also in year 1,012 that little Johnny was born. He was a thrifty lad and, almost immediately, put £1 into his piggy bank. It didn't take him long to realise that the piggy bank wouldn't earn him any interest so he began to lend money to the farmers in his village, allowing them to harvest ever larger areas of farmland. All Johnny demanded was a modest rate of interest amounting to inflation + 3% which was not unreasonable. After all, he took risks that he should be paid for. It was a perfectly rational request.

Johnny was not only thrifty; as he grew into a young adult he taught his own children some business acumen, so, long after Johnny had perished as an old but wealthy man, his children and their children continued to earn a modest 3% over inflation, year in, year out. 40 generations later, Johnny's great-great... grandson is now easily the wealthiest man on earth with a personal fortune of no less than £6.87 trillion. That's the power of compounding.

Now, we all know that there is no single person on this planet worth anywhere near £7 trillion, so something is wrong with my maths. Apart from the evil called the tax man – the obvious mistake I make is not taking into account the value destruction which has decimated our wealth at regular intervals since the sun rose for the very first time – due to war, disease, bursting asset bubbles, or because some odd meteor from outer space chose to crash land in our backyard. The reasons are many but the end result the same.

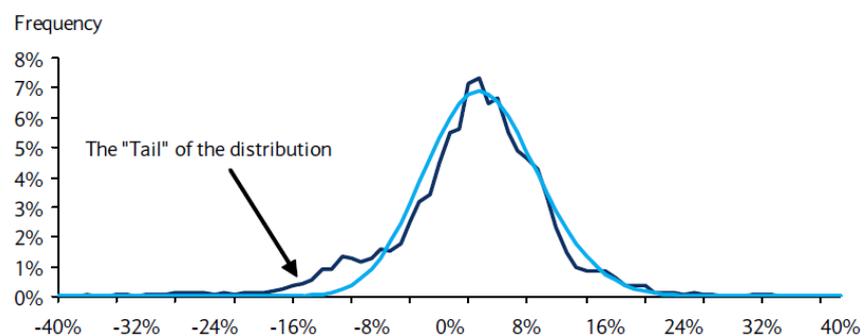
Dealing with the unexpected

The point I want to make here is that our brains are not calibrated to deal with the unexpected. Most of us believe we are good risk managers but in reality we are not. Most of us trust that risk can always be quantified and expressed through some fancy modelling whereas, often, it cannot. When I went to lunch on the 11th September, 2001, little did I

know – or expect – that less than an hour later I would get a call from my assistant suggesting that it was probably best if I came back to my desk as quickly as I possibly could.

The world is not normal, yet universities continue to teach our young students the wisdom of Markowitz and Sharpe which brought us modern portfolio theory and, more specifically, the capital asset pricing model. *Garbage In, Garbage Out*, as they say. One of the fundamental assumptions behind modern portfolio theory is that asset returns are normally distributed random variables. I suggest you take a glance at chart 1 below. The bright (smooth) blue line depicts a perfect normal distribution. The darker (uneven) blue line represents actual equity market returns over the past couple of decades. Even the untrained eye can see that the return profile of US equities fairly closely matches that of a normal distribution *with the exception of large negative returns*. They have come about more frequently than one would or should expect¹.

Chart 1: The Return Distribution of Equities is Non-Normal



Source: "Global Volatility Outlook 2012", Barclays Capital.
Note: Histogram of 3-month overlapping returns of S&P500 since 1990.

You can't model risk

You can't model risk, yet armies of risk managers all over the world attempt to do so every day of the year. Value-at-Risk (VaR) is a prime example of such thinking. If a risk manager notifies the portfolio manager that his one day 1% VaR is \$8 million, he basically tells the manager that there is a 1% probability of losing more than \$8 million in one day's trading. VaR assumes normally distributed returns. We already know that large negative returns occur more frequently than one might expect, so a use of the VaR model in isolation or relying on the absolute numbers only is likely to lead to the risk manager underestimating the frequency and magnitude of large losses. That is not the only problem, though.

We know from experience that periods of relative calm – and hence low volatility – often precede panic. VaR falls when volatility drops so, following a period of low volatility, the risk manager will often allow the portfolio manager to increase his risk taking, for example through increased use of leverage. In other words, the portfolio manager may walk straight into a financial storm with far too much risk on his books, if such storm has been preceded by a period of more benign market conditions.

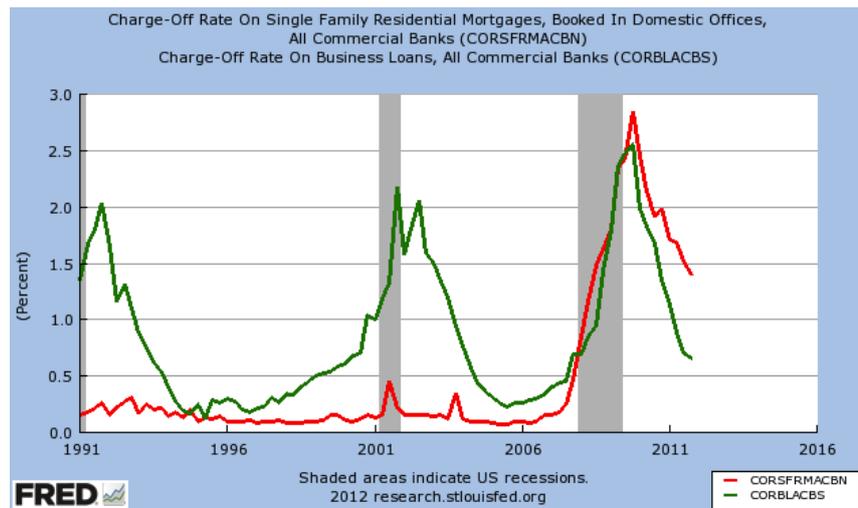
Furthermore, VaR establishes the largest loss that the portfolio manager is likely to lose 99% of the time (assuming the risk manager uses 1% VaR) but it says *nothing* about what might happen in the remaining 1% of cases. Isn't that at least as important and probably more so? After all, 1% still accounts for two, maybe three, trading days every year. VaR is a quasi useful tool in the right hands but a highly toxic one in the wrong hands.

¹ See the October 2007 Absolute Return Letter (*Wagging the Fat Tail*) [here](#) for a more detailed discussion on return distributions and the implications of poor financial theory.

The brilliant economist Hyman Minsky understood this only too well. Whilst lecturing at University of California, Berkeley, he developed the thesis that stability in itself is destabilising – an idea that led to his *Financial Instability Hypothesis*. Not surprisingly, Minsky’s ideas have attracted widespread attention more recently, following the worst financial crisis of three generations which came about after years of unprecedented prosperity.

Stability breeds instability for several reasons – key amongst them is our inclination to look in the rear mirror for clues about the future. Portfolio managers, risk managers and regulators all tend to do so when looking for clues as to where the system is vulnerable. U.S. residential mortgage loans offer a prime example of such behaviour (see chart 2).

Chart 2: Charge-Off Rates for Residential Mortgage Loans and Business Loans



Source: www.soberlook.com, Federal Reserve Bank of St. Louis.

During the recession of 1990-91, charge-off rates (i.e. bad loans) on U.S. residential mortgage loans (the red line in chart 2) hardly changed. Broadly the same picture emerged during the 2001 recession. Business loans, on the other hand, demonstrated a classic cyclical pattern with a significant rise in charge-offs during both those recessions (the green line in chart 2). Based on this knowledge, going into the 2007-09 recession, consensus was that residential mortgages would do relatively well in a recession whereas business loans would experience a significant pick-up in charge-offs. As we all know now, this turned out to be the mistake of the century and one which I, to my great regret, made myself. *Never fight the last war when managing risk!*

Correlated mistakes

Whether we like it or not, we will continue to make mistakes. It is simply part of human nature. However, the effect mistakes have on financial markets are compounded when they are correlated. A “correlated” mistake is one in which investors share a common forecast that proves to be wrong. An “uncorrelated” mistake is one where investors’ forecasts are widely spread out symmetrically around the eventual outcome (the Truth)². Our economic adviser Woody Brock makes the following observations on correlated versus uncorrelated mistakes:

“The more correlated the forecasting mistakes of the individuals in a market are, then the greater the market correction (and hence volatility) will be in the market once the Truth is learned. When forecasts are uncorrelated and distributed symmetrically around the Truth, then once the Truth is learned, for every seller there will be a buyer and market price does not change. There is no volatility. In the

² Source: Woody Brock, SED.

case of a correlated structure, the reverse is the case: everyone becomes either a buyer or a seller in unison, resulting in sharp changes in price.”

Leaning on Kindleberger’s work³, Woody Brock goes on to conclude:

“In applying this insight to help explain the case study of the Global Financial Crisis three years ago, I arrived at what I have termed the Fundamental Theorem of Risk: A Perfect Financial Storm will occur when (1) investors have bets based upon very similar forecasts, (2) their bet is a “big” one, for example, a bet on the price of their principal asset (their house), and (3) both investors and their banks are maximally leveraged. It can be demonstrated formally that these three conditions will generate a Perfect Storm of maximal volatility – and note how perfectly these three conditions were met in the US housing market collapse. The role of excess leverage is to non-linearly amplify market distress.”

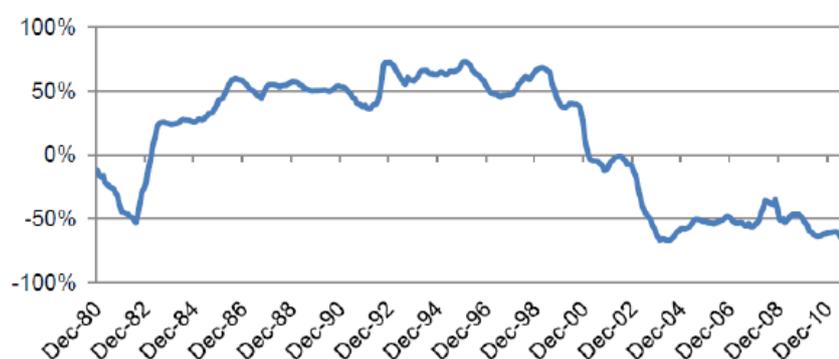
Woody Brock’s work is critical in terms of understanding why 2011 turned out so differently from 2008 and, more importantly, why the painful experience of 2008 is not likely to be repeated any time soon, at least not in Europe or the United States. In 2011, investors were (and still are) deeply divided as to the longer term consequences of the policy being pursued – witness the great deflation vs. inflation debate – so Woody’s first condition (investors having bets based upon very similar forecasts) was not met in 2011 and is still not met today unlike in 2008 where all three conditions were fulfilled in abundance.

Abuse of statistics

Abuse of statistics is another source of poor risk management in our field. One such example is the widespread confusion between correlation and causation. Just because a statistician can prove a correlation between ice cream consumption in Angola and the number of single mums in Panama doesn’t mean that there is causation (i.e. one is a function of the other).

Neither are correlations stable over time as so amply demonstrated in chart 3 below. Those who based their risk management approach around 1999-2000 on the assumption that US Treasuries and US equities were positively correlated were in for a rude awakening. Today everyone takes for granted that the two are negatively correlated. For now they are but for how long?

Chart 3: Rolling 5-Year Correlation of US LT Treasuries vs. S&P 500



Source: Richard Bernstein Advisors. Note: Total returns, Dec 1980 – Dec 2011.

My favourite case of data abuse is unquestionably Reinhart and Rogoff’s work on debt versus economic growth (see [here](#)). In their much quoted research paper they state the following:

“We have shown that public levels of debt/GDP that push the 90 percent threshold are associated with lower median and average growth; for emerging markets there are even stricter thresholds for

³ “Manias, Panics and Crashes: A History of Financial Crisis” by Charles Kindleberger.

external debt while growth thresholds for advanced economies remain an open question due to the fact only very recent data is available.”

These four rather innocuous sounding lines have since become gospel in many quarters. It is now widely accepted that 90% debt-to-GDP is the invisible line in the sand. Once crossed, you are doomed. Economic growth will tank and you will ultimately default on your obligations, or so many believe.

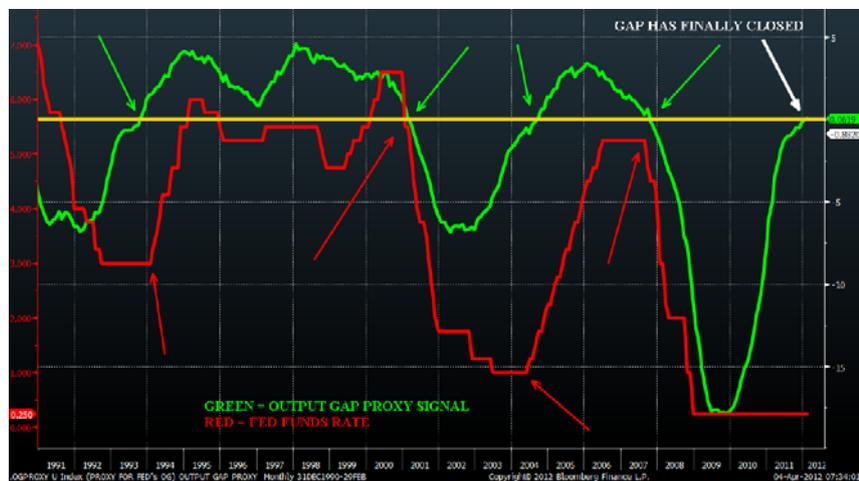
The reality is that Reinhart and Rogoff's work is based on a relatively small sample of countries of such disparity in socioeconomic profiles that providing an average figure is almost meaningless. It is akin to suggesting that yesterday was a very pleasant day with an average temperature of about 20C when in fact it was -10C at night and +50C during the day – both highly unpleasant. However, and for the record, I don't blame Reinhart and Rogoff who did caveat their findings; no, the blame lies firmly with all those who have taken those findings at face value and used them out of context.

One-dimensional thinking

Another example of poor risk management is the one-dimensional thinking so often exuded by investors. It manifests itself in a number of ways. More recently it has become clear to me that investors are incapable of focusing on more than one crisis at any given point in time. 2011 became the year of the euro crisis; pretty much nothing else mattered. The inability to apply multi-dimensional thinking is also clear from how markets treat economic news. In the U.S., (un)employment data have stolen most of the headlines in recent months with less emphasis on other, and equally important, economic statistics. This could have significant implications for financial markets. Here is why.

I suspect that the U.S. economy is in the process of inheriting Europe's long standing problem of high structural unemployment. If my fears are well founded, investors are likely to underestimate the strength of the U.S. recovery as they will mistakenly conclude that continued high unemployment is synonymous with persistent economic weakness. It may not necessarily be the case if the unemployment is structural in nature. Allow me to show you a chart supporting my suspicions (chart 4). The green line is a proxy for the output gap and used by the Fed. The red line is the Fed funds rate. Two observations immediately stand out: (1) The two correlate relatively well over time, and (2) The output gap has now all but evaporated since it peaked in late 2009. In plain English: the economy is stronger than suggested by the employment data and, more importantly, the Fed may be forced to raise rates as they are increasingly at risk of falling behind the curve. This may also explain why there is growing dissent inside the ranks of the Fed.

Chart 4: Is the Federal Reserve Bank Behind the Curve?



Source: UBS, Bloomberg

I could go on and on. I could mention (some) investors' one-dimensional focus on the absolute level of P/E ratios when it makes little sense to assess P/E ratios without taking the level of interest rates into consideration. Following this logic, investors should pay more attention to the equity risk premium and less so to the absolute valuation of equities.

Or I could talk about the effect the 'risk on – risk off' mentality has had on the ability to diversify risk. In today's environment asset classes fall into one of two categories – they are either risk assets or safe haven assets. Traditional diversification techniques have stopped working with significant implications for asset allocation and portfolio construction.

Perhaps I should also have allocated more time and energy to one of the classic traps of investing – investor overconfidence. Most investors have a remarkable and deeply fascinating ability to blame others for their mistakes whilst giving themselves credit for all the correct investment decisions. As my old boss used to say - *Don't confuse genius with bull market.*

The all important question

The list goes on and on. Instead I will finish this letter by looking into the future and give my response to the all important question: Where should investors look for the next big crisis? Many pundits are pointing to the bond market as an accident waiting to happen. Andy Xie says that the current policy "will lead to catastrophic bond market collapse"⁴. Frank Veneroso says "bonds and bunds at these yields are a sheer madness"⁵. Both men are widely respected and very astute observers of financial markets; however, if Woody Brock's logic proves correct, betting on the bond market as a major accident waiting to happen may prove rather futile. My money is on Asia. Here is the logic.

We know from experience that an asset bubble that bursts is likely to create what are often referred to as echo bubbles. An echo bubble is a follow-on bubble from the initial asset bubble and is usually created when monetary and/or fiscal policy is relaxed in response to the bursting of the initial bubble. Some market observers have actually argued that the financial crisis of 2008 was in fact the bursting of an echo bubble created by the very lax monetary policy created in response to the bursting of the dot com bubble in 2001-02.

We also know the effect artificially low interest rates can have on a country. Think Spain or Ireland, both of which adopted artificially low interest rates when they first joined the eurozone; however, rates were low at the time to accommodate a rather weak German economy. The low rates did wonders for Ireland and Spain in the early years of the eurozone membership but it is now painfully clear that enormous excesses were created as a result.

Is Asia a re-run of Europe?

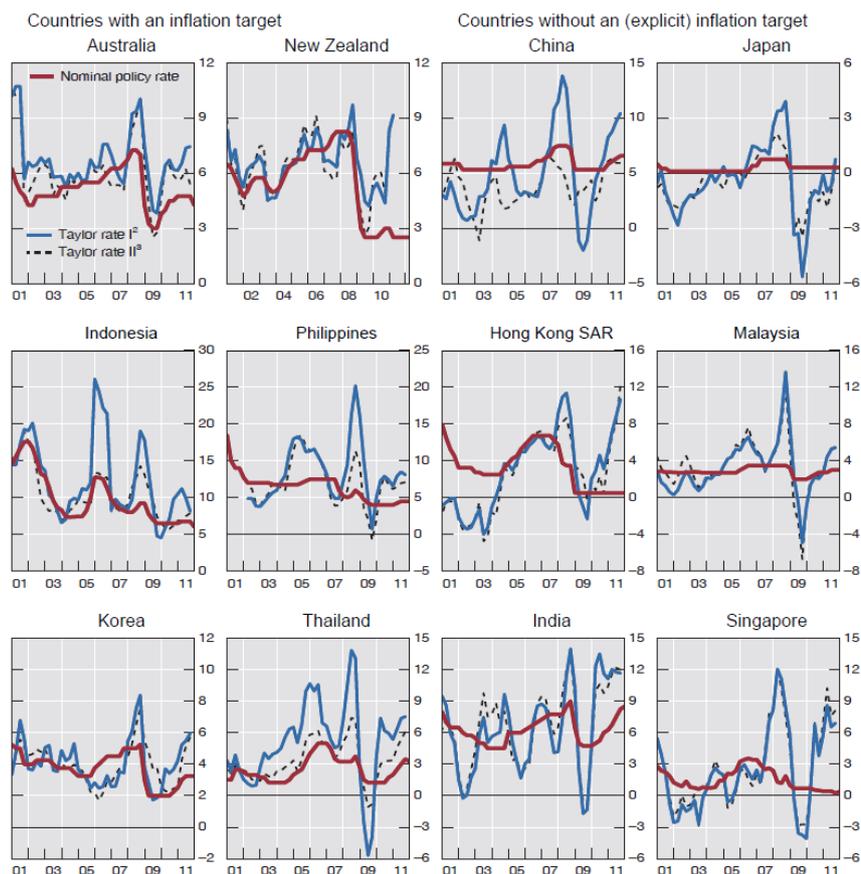
Now switch your attention to Asia. Many Asian currencies are pegged to the U.S. dollar, either directly or indirectly. As a result, the central banks of those countries are forced to keep the policy rate at a level which may be entirely inappropriate for the rapidly growing Asian economies. Obviously, removing the dollar peg would address this dilemma, but that is a pie in the sky so long as the mercantilist approach that most Asian countries subscribe to prevails.

The Bank for International Settlements published a paper recently where it pointed out just how lax monetary policy is throughout Asia. With the exception of Japan, every single country in the BIS study appears to be behind the curve (see chart 5). This raises all kinds of issues for Asia longer term – increased use of leverage, inflationary pressures, asset price bubbles, etc. Does it sound familiar?

⁴ Source: *The New Century Weekly*, 30 April 2012

⁵ Source: *Europe Economy Update*, 7 May 2012

Chart 5: Policy Rates and Those Implied by the Taylor Rule⁶



Source: BIS Working Paper No 378

To me it looks and sounds like a potential re-run of Europe. *When it looks like a fish and smells like a fish, it usually is a fish.* The parallels are certainly there for everyone to see, although Asia's crisis may take years to unfold. Investors in Spain and Ireland had six or seven years of exceptional returns before the tide turned and those who exited prematurely left an awful lot of money on the table. At this stage we are merely monitoring events, but the yellow flag has been raised.

Perhaps the best the Asian monetary authorities can hope for is that the Fed takes a very hard look at chart 4 above and concludes that perhaps the U.S. does need higher interest rates after all. Such swift action might still save Asia from a repeat of the European malaise.

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8 May 2012

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⁶ The Taylor stipulates what the policy rate set by the central bank should be, given the current level of economic growth and inflation.

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