

No Silver Bullets in Investing (just old snake oil in new bottles)

James Montier

Modern day investment management resembles, sadly, another old profession – and I’m not thinking of the oldest one, although there may be parallels there as well. Rather, I’m thinking of ancient alchemy with its near constant promises to turn lead into gold,¹ just as investment managers repeatedly offer to transform low returns into high returns. This raises the question as to why investors/people keep falling for the stories offered up by investment managers/alchemyists.

The sorry tale of Sir Roger

I think one can gain some insight into the reason people constantly fall for such stories by examining the sorry tale of Sir Roger Tichborne. Like many a well-heeled young Victorian Englishman, Sir Roger went gallivanting around South America. Eventually he boarded the *Bella* in Brazil. Four days later, wreckage of the *Bella* was recovered, and all souls were declared lost. Lady Tichborne (Sir Roger’s mother) refused to believe that he had perished. Encouraged in her beliefs by a medium who kept telling her that she couldn’t find Sir Roger in the afterlife, Lady Tichborne posted regular advertisements in newspapers around the world offering a reward for information about her lost son.

Some 10 years after Sir Roger’s disappearance, Lady Tichborne received word from an Australian solicitor claiming that her son was alive and well and living in Wagga Wagga, working as a butcher. Lady Tichborne was ecstatic, and sent funds to cover her “son’s” repatriation to the U.K. Upon his arrival, Lady Tichborne declared the man to be her son and instigated a £1000 stipend.

Exhibit 1

Sir Roger and the Claimant



Sir Roger (1854)



The Claimant (1869)

Not everyone was quite so convinced that the new arrival was in fact Sir Roger (see Exhibit 1). Now it is perfectly possible for a man’s weight to change over the years (trust me, I know). However, Sir Roger spoke both Greek and Latin, the claimant spoke neither. Sir Roger had a working knowledge of chemistry, the new arrival couldn’t tell his sodium chloride from his calcium carbonate. It is, of course, possible to forget things over time; perhaps a bump on the head during the wrecking of the *Bella* resulted in memory loss. However, it is rare that tattoos disappear of their own

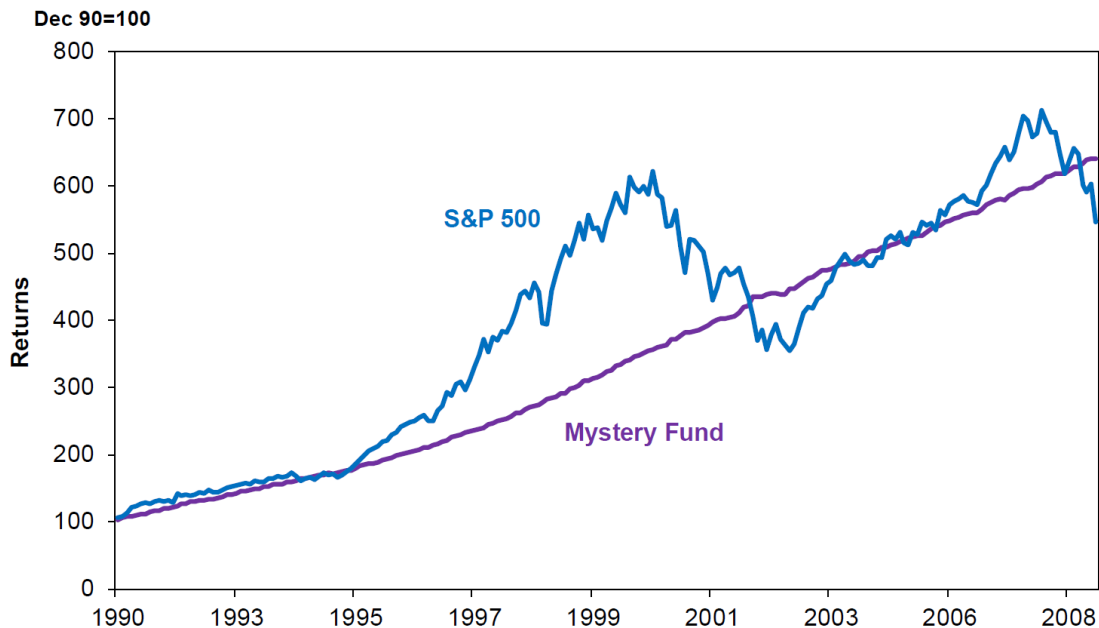
¹ Amazingly, alchemy is still alive and well! www.alchemystudy.com

accord, even in the extreme sun of Australia. Sir Roger had some, yet these had mysteriously disappeared from the new arrival. It is even rarer that a person's eyes change colour. Sir Roger had blue eyes, the new arrival had brown eyes! It was only after Lady Tichborne's death that the rest of the family exposed the Australian import as an imposter.

The moral of this story? Never underestimate the willingness of people to believe in the most outlandish of things if it suits them. Just in case you think this example has no relevance for the world of investing, consider the returns of the mystery fund shown in Exhibit 2.

Exhibit 2

Mystery Fund Returns and the S&P 500



Source: Datastream, BusinessInsider

Investors are always looking for the Holy Grail of investing, a strategy that generates good returns and doesn't have major drawdowns – something akin to the mystery fund. (As one of my colleagues² put it, investors often behave like Lady Tichborne except in their adverts they disclose the details of their desires, i.e., smooth returns, high Sharpe Ratio, etc., and so the “claimants” [aka investment managers] are happy to create such illusions.)

Unfortunately, the exhibit presents none other than the fund returns of one Bernard Madoff! The obvious lesson from the Madoff affair is that if something looks too good to be true it probably is. Yet, just like Lady Tichborne, investors appear vulnerable to seeing exactly what they would like to believe.

The rest of this paper is about innovation in our industry. Now, innovation sounds like it should be exciting but, sadly, I share the perspective of J.K. Galbraith and Paul Volcker when it comes to innovation. Galbraith observed, “The world of finance hails the invention of the wheel over and over again, often in a slightly more unstable version.” Paul Volcker has opined that the ATM is the only useful financial innovation in the last 30 years. The rest of this paper tries to examine some of the “innovations” put forward by investment managers, and concludes (spoiler alert) they are nothing more than old snake oil in new bottles.

Smart Beta = Dumb Beta + Smart Marketing

One of the popular refrains in investment circles today is that investors must get inventive with their beta exposure. The innovations around this idea go by a variety of names such as “smart beta,” “risk factors,” etc. Within equity

² Hat tip to David Cowan.

space we have seen strategies crop up like minimum variance, low volatility, and fundamental weighted indices, not to mention a host of others.

In an amusing and insightful piece of research, Arnott et al³ show that things like minimum variance and a preponderance of other smart beta strategies outperform the cap weighted benchmark. They also demonstrate that the equally weighted portfolio has outperformed the cap weighted portfolio. This provides the first hint of an explanation (with the difference between cap weighting and equal weighting being the latter loads on small caps). The authors also show that simulated simians (aka monkey portfolios) beat the cap weighted portfolio. As a final coup de grace, they take the inverse of the smart beta strategies (literally turning the approaches on their heads) and show that these too outperform the cap weighted benchmark. If the stories behind these funds were correct, the result should be portfolios with terrible performance. So, what is going on?

The unifying trait of these approaches is that they build portfolios with indifference to price (i.e., they ignore market cap in portfolio construction). Such a process essentially guarantees there will be a value and a small cap tilt to the portfolio.

As Exhibit 3 shows, when these strategies are corrected for their exposure to “value” and “small,” they exhibit no statistically significant outperformance compared to the cap weighted benchmark. In other words, the fact that smart beta has outperformed has nothing to do with the story told (i.e., better covariance matrix, exploiting index hugging, or contra trading against the cap weighted benchmark), it is simply that they embed exposure to value and small, two traits known to have outperformed over time.

Exhibit 3

The Ugly Truth about Smart Beta

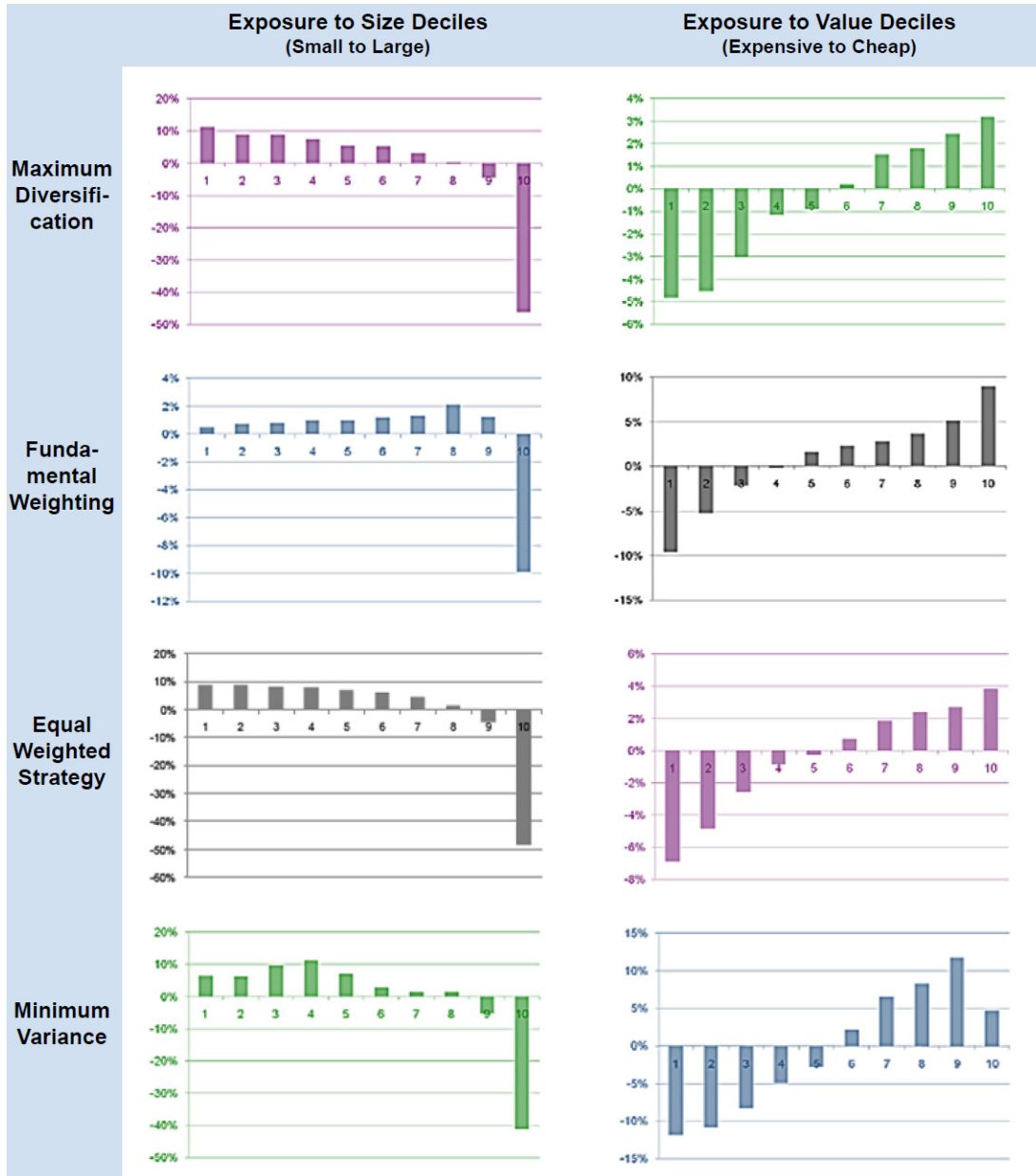
US 1963-2012						
	Return	Standard Deviation	Sharpe Ratio	Value	Small	Alpha' t stat after Value and Size
Cap Weighted	9.66	15.29	0.29			
Equal Weighted	11.46	17.37	0.36	X	XX	0.38
Minimum Variance	11.75	11.69	0.56	XX	X	1.39
Maximum Diversification	11.99	13.96	0.48	XX	XX	0.54
Risk Efficient	12.50	16.81	0.43	XX	X	1.32
Risk Cluster Equal Weight	11.18	14.61	0.41		XX	0.49
Fundamental Weight	11.60	15.45	0.41	XX		1.83
Simulated Simians	11.26	18.34	0.33	X	XX	-0.31
Inverse Strategies						
Minimum Variance	12.66	18.14	0.41	X	XX	0.54
Maximum Diversification	12.48	17.58	0.41	XX	XX	0.94
Risk Efficient	12.35	17.32	0.41	XX	X	0.25
Risk Cluster Equal Weight	13.23	18.96	0.42	X	XX	-0.16
Fundamental Weight	14.06	18.77	0.47	X	XX	1.40

Source: Source: Arnott, Hsu, Kalesnik, Tindall (2013)

³ R. Arnott, J. Hsu, V. Kalesnik, S. Tindall, “The Surprising Alpha from Malkiel’s Monkey and Upside-Down Strategies,” Research Affiliates, LLC; www.qgroup.org/pdf/2013fall_hsuslides.pdf.

For those who prefer pictures to numbers, Clare et al⁴ have done similar work to Arnott et al. They examine the weights of various smart beta strategies relative to the cap weighted benchmark and show they all load on small and value (see Exhibit 4).

Exhibit 4
Smart Beta Loads of Small and/or Value



Source: Clare, Motson, and Thomas (2013)

⁴ A. Clare, N. Motson, S. Thomas, "Equity Indices: Market Cap, Smart Beta and Dumb Monkeys," An Evaluation of Alternative Equity Indices – Part 1: Heuristic and Optimised Weighting Schemes; Part 2: Fundamental Weighting Schemes (2013 work in progress).

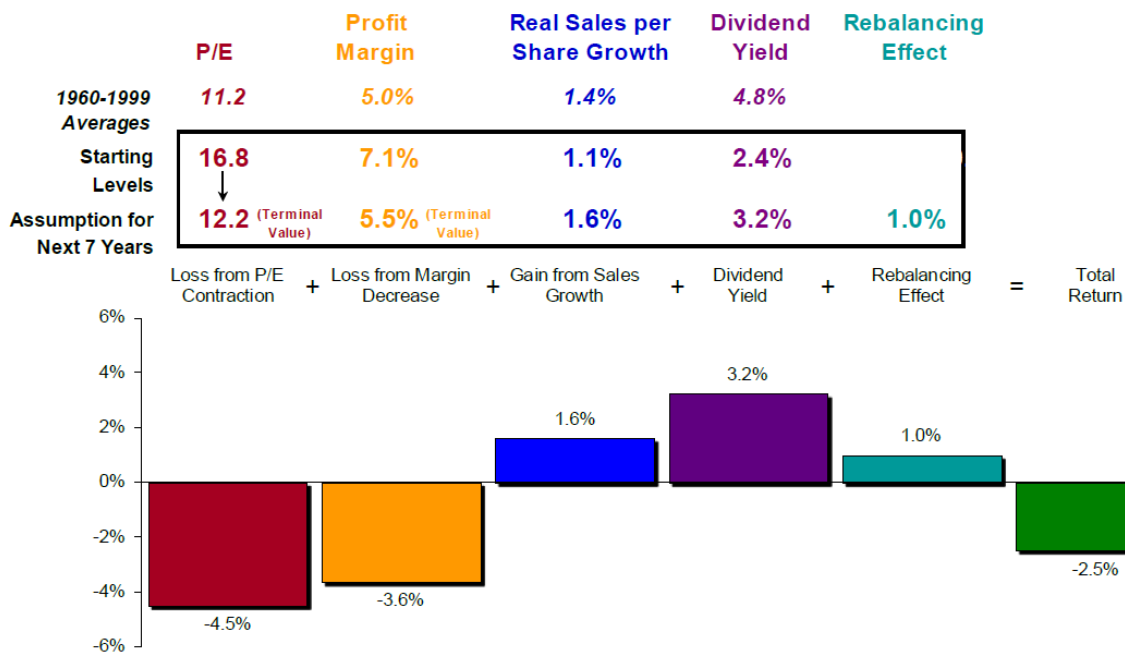
Of course, investment managers have worked out that turning up at someone’s door and saying, “I’ve got this brilliant idea about how to beat the cap weighted benchmark. I’m going to invest in value stocks and small cap stocks!” would get them laughed out of town. But make no mistake about it: that⁵ is exactly what just about every smart beta strategy is doing.

One might argue that having exposure to value and small makes good sense. However, from my perspective this is true if and only if the golden rule of investing holds: “no asset (or strategy) is so good that it can be purchased irrespective of the price paid.” Even value (cheap price to book) and small cap stocks are not guaranteed to outperform independent of their pricing!

If our forecasts are to be believed, then the current juncture represents a particularly bad point in time to be trying to implement a smart beta strategy as both value and small have very unattractive expected returns in the U.S. on our data (see Exhibits 5 and 6).

Exhibit 5

U.S. Value S&P 500/BARRA Value: Building a 7-Year Forecast



The chart represents a real return forecast for the above named asset class and not for any GMO fund or strategy. These forecasts are forward-looking statements based upon the reasonable beliefs of GMO and are not a guarantee of future performance. Forward-looking statements speak only as of the date they are made, and GMO assumes no duty to and does not undertake to update forward-looking statements. Forward-looking statements are subject to numerous assumptions, risks, and uncertainties, which change over time. Actual results may differ materially from the forecasts above.

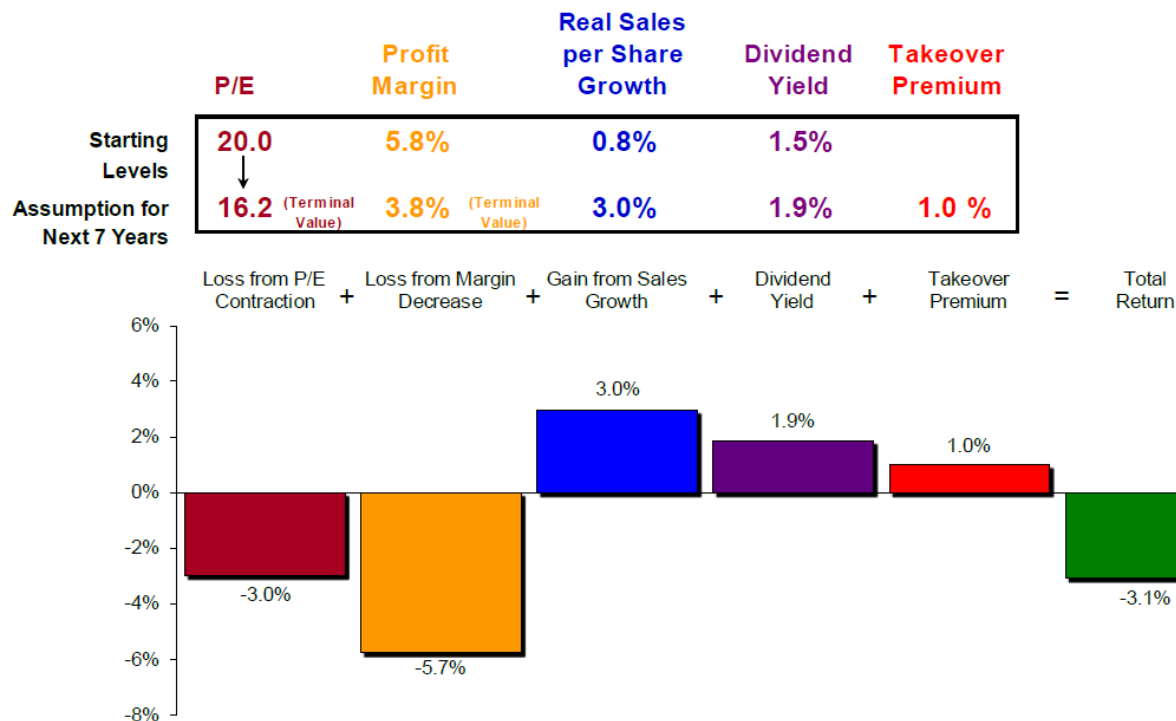
Source: GMO As of 8/31/13

⁵ Whilst there is no magic in owning quality, there certainly is in defining it: investors should be aware that not all quality is equal. At our recent client conference, Sam Klar and Kimball Mayer gave a workshop on high quality, which highlighted the massive differences caused by differing definitions of quality. For example, the Ishares quality definition leads to something that looks like a growth portfolio. We at GMO, strangely enough, look for cheap stocks within the quality universe.

Exhibit 6

U.S. Small: Building a 7-Year Forecast

Components of annual return of Russell 2500, with regression over 7 years



The chart represents a real return forecast for the above named asset class and not for any GMO fund or strategy. These forecasts are forward-looking statements based upon the reasonable beliefs of GMO and are not a guarantee of future performance. Forward-looking statements speak only as of the date they are made, and GMO assumes no duty to and does not undertake to update forward-looking statements. Forward-looking statements are subject to numerous assumptions, risks, and uncertainties, which change over time. Actual results may differ materially from the forecasts above.

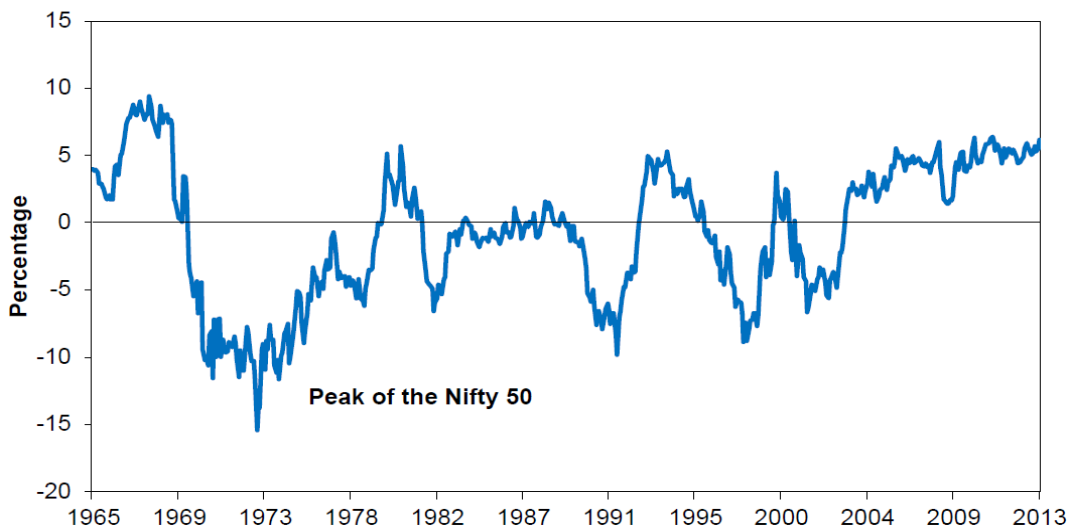
Source: GMO As of 8/31/13

The latest deity (and one close to our hearts at GMO) admitted to the smart beta pantheon appears to be Quality. ETFs are being launched and papers written about the “magic” of high quality businesses. Let us be clear that there is no magic to owning quality. There are only two interesting features about “quality.” The first is of interest to economists, and that is that oligopoly appears to be a common industrial structure, as evidenced by the very slow mean reversion of the profitability of quality stocks. It is ironic that the outcome of the competitive process so beloved by most economists is not their heaven of perfect competition (with its infinite number of price-taking firms), but rather something more akin to imperfect competition.

The second interesting feature (and the only one that matters for investors) of quality is that it has been priced to do relatively well of late. Perhaps this reflects the “dull” nature of the businesses themselves, or perhaps it reflects the dominant economic paradigm that constantly expects quality’s competitive edge to be eroded. Whatever the cause, there is no magic here. At times when quality has been priced to do well, it has generally done well, and when it has been priced to do poorly (think the Nifty 50 bubble in the 1970s when McDonald’s was trading on a P/E of 86x, Johnson & Johnson was on 62x, and Coca-Cola was on 48x), it has indeed gone on to generally do badly. So own quality when it is priced attractively, and don’t when it isn’t (see Exhibits 7 and 8).

Exhibit 7

Quality Forecast (Relative to S&P 500)

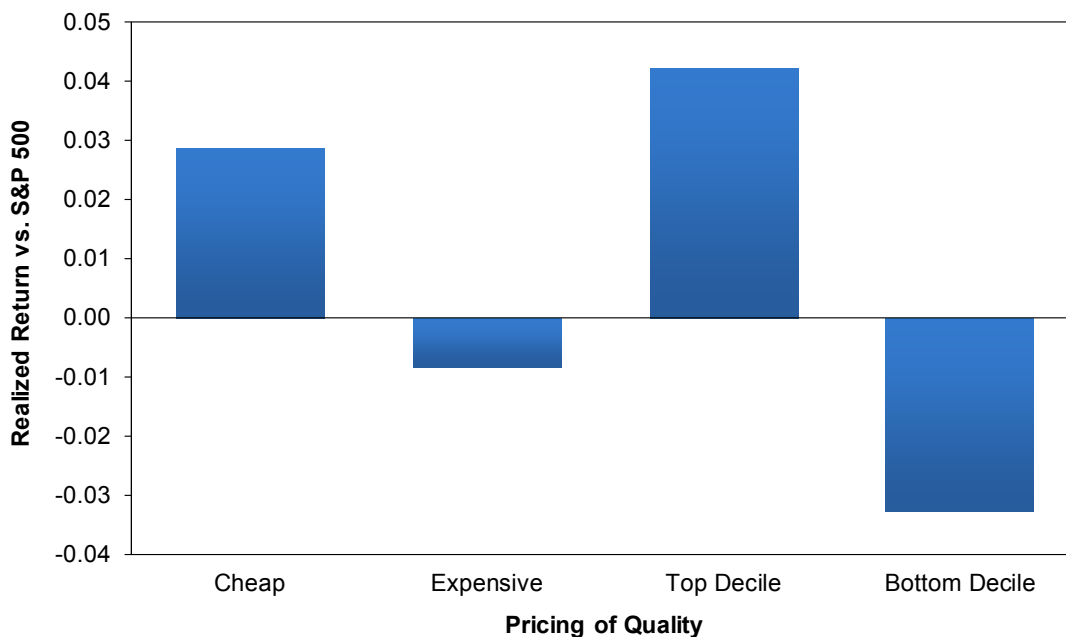


Nifty 50 refers to 50 popular large cap stocks listed on NYSE during the 1960s and 1970s that were characterized by their consistent earnings growth and high P/E ratios. The chart above was derived by using the current asset class forecasting methodology for the quality asset class applied retroactively for each of the periods presented. The chart does not represent the historical return of any GMO fund or strategy.

Source: GMO

Exhibit 8

Pricing Matters – No Magic Here



Source: GMO Date range: 1965 – 2013

To sum, when considering any so-called “smart beta” it is important to understand what it is actually giving you in terms of exposures and, most importantly, to remember that **no assets are so good that you should be willing to pay any price for them.**

$$\text{Risk Factors} = \text{Assets} + \text{Leverage}$$

In multi-asset space, we hear exhortations to concentrate on risk factors such as carry, value, and momentum. In many ways this parallels the smart beta within equity space. Indeed, the term “smart beta” is often applied to encompass “risk factors” as well.

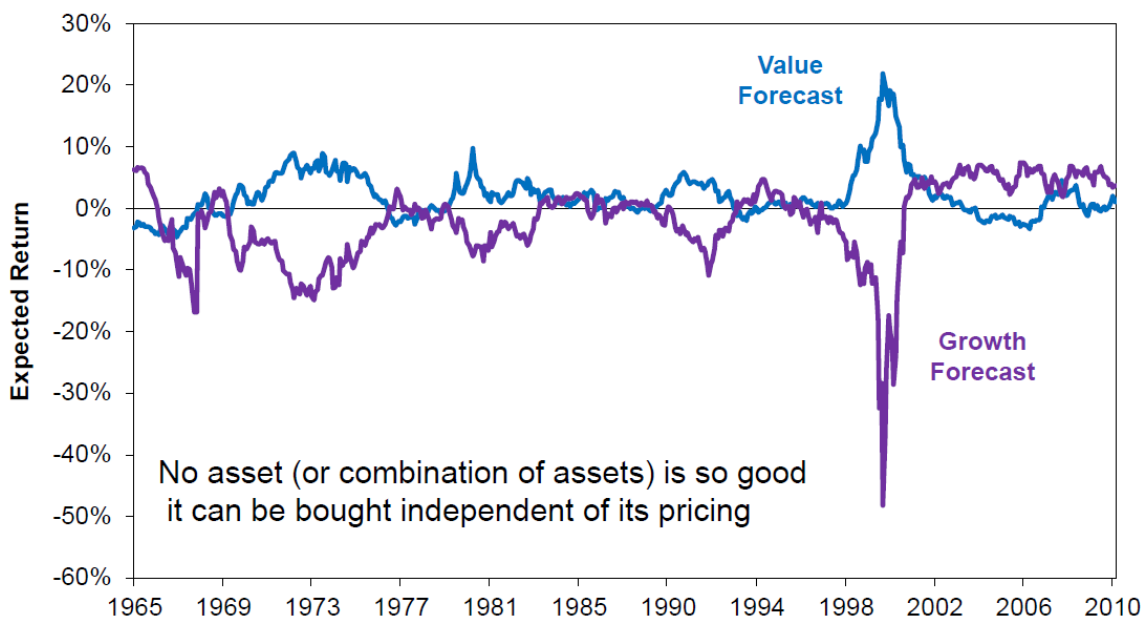
The peddlers of this “risk factor” approach to investing get very excited about the low correlations of their risk factors with long assets, and the insights that can be gained from viewing the world through the risk factor lens. I’ve always been relatively unimpressed by such claims. It has never struck me as particularly hard to figure out that private equity looks very much like public equity plus leverage minus a shed load of costs, or that hedge funds as an “asset class” look like they are doing little more than put selling! In fact, I’d even go as far as to say if you can’t work that out, you probably shouldn’t be investing; you are a danger to yourself and to others!

The trick to understanding risk factors is to realize they are nothing more than a transformation of assets. For instance, what is the “equity risk?” It is defined as long equities/short cash. The “value” risk factor is defined as long cheap stocks/short expensive stocks. Similarly, the “momentum” risk factor is defined as long stocks that have gone up, and short stocks that have done badly. “Carry” is simply long high interest rate currencies/short low rate currencies. Hopefully you have spotted the pattern here: they are all long/short combinations.

You can think of “assets” as long-only constrained instruments. “Risk factors” are simply combinations of assets with constraints removed (i.e., the long-only constraint is broken, so you can go short). Ultimately risk factors are represented in asset space (i.e., you implement your risk factors by owning assets⁶). As noted above, much is made of the low correlation of the risk factors with their parent assets. However, it should be remembered that any random long/short portfolio should have close to a zero correlation with the relevant long-only asset. So, it is the economic intuition behind the risk factors that matters.

Perhaps risk factors are more “efficient,” where efficiency is defined in something meaningless such as in a mean-variance sense (i.e., where “risk” is defined in a completely useless way as volatility), but remember two things. First, just as with the underlying assets, no risk factor is going to do well independent of its pricing. There are times when carry strategies will be priced to do well, and times when they won’t, times when value will be priced to do better than growth and vice versa, and so forth (see Exhibit 9).

Exhibit 9
Expected Returns for Value and Growth in the U.S.



The chart above was derived by using the current asset class forecasting methodology for growth and value asset classes applied retroactively for each of the periods presented. The chart does not represent the historical return of any GMO fund or strategy.

Source: GMO

⁶ Technically, assets span the risk factor space.

Second, when dealing with risk factors you are implicitly letting leverage into your investment process (i.e., the long/short nature of the risk factor). This is one of the dangers of modern portfolio theory – in the classic unconstrained mean variance optimisation, leverage is seen as costless (both in implementation and in its impact upon investors). The risk factors approach exploits this oversight.

As I have written many times before, leverage is far from costless from an investor’s point of view. Leverage can never turn a bad investment into a good one, but it can turn a good investment into a bad one by transforming the temporary impairment of capital (price volatility) into the permanent impairment of capital by forcing you to sell at just the wrong time. Effectively, the most dangerous feature of leverage is that it introduces path dependency into your portfolio.

Ben Graham⁷ used to talk about two different approaches to investing: the way of pricing and the way of timing. “By pricing we mean the endeavour to buy stocks when they are quoted below their fair value and to sell them when they rise above such value... By timing we mean the endeavour to anticipate the action of the stock market...to sell...when the course is downward.”

Of course, when following a long-only approach with a long time horizon you have to worry only about the way of pricing. That is to say, if you buy a cheap asset and it gets cheaper, assuming you have spare capital you can always buy more, and if you don’t have more capital you can simply hold the asset. However, when you start using leverage you have to worry about the way of pricing and the way of timing. You are forced to say something about the path returns will take over time, i.e., can you survive a long/short portfolio that goes against you?

Exhibits 10 and 11 highlight this problem. Exhibit 10 shows the value/growth expected return spread over time. I’ve marked three points with red stars. Let’s imagine you had all of this time series history in the run-up to the late 1990’s tech bubble. Given history and assuming you were patient enough to wait for value to get one standard deviation cheap relative to growth, you would have put this position on in September 1998. If you had been even more patient and waited for a 2 standard deviation event, you would have started the position in January 1999. If you had displayed the patience of Job, and waited for the never before seen 3 standard deviation event, you would have entered the position in November 1999.

Exhibit 10
Expected Return Spread: Value vs. Growth

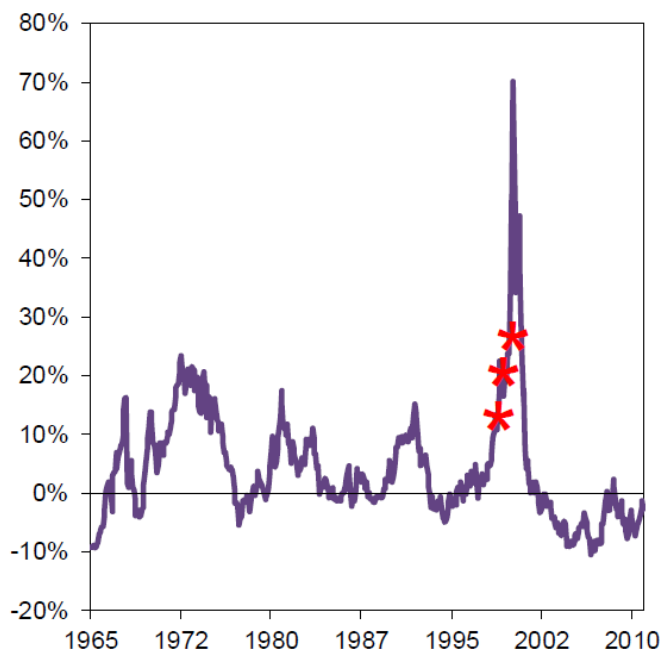
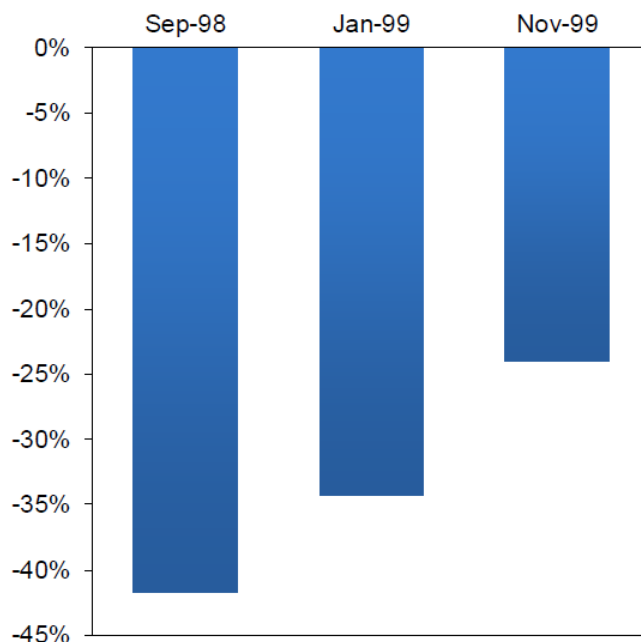


Exhibit 11
Drawdown of Value vs. Growth



The charts above were derived by using the current asset class forecasting methodology for growth and value asset classes applied retroactively for each of the periods presented. The charts do not represent the historical return of any GMO fund or strategy.

Source: GMO

⁷ B. Graham, *The Intelligent Investor*, Chapter 8 (1949).

Exhibit 11 reveals the drawdowns you would have experienced from each of those points in time. Pretty much any one of these would likely have been career ending. They nicely highlight the need to say something about the “way of timing” when engaged in long/short space.

As usual, Keynes⁸ was right when he noted “An investor who proposes to ignore near-term market fluctuations needs greater resources for safety and must not operate on so large a scale, if at all, with borrowed money.”

Risk Parity = Wrong Measure of Risk + Leverage + Price Indifference = Bad Idea

At a fundamental level, risk parity is the antithesis of everything that we at GMO hold dear. We have written about the inherent risks of risk parity before,⁹ however I think they can be stated simply as the following:

I. Wrong measure of risk

Many proponents of risk parity use volatility as their measure of risk. As I have argued what seems like countless times over the years, risk is not a number. Putting volatility at the heart of your investment approach seems very odd to me as, for example, it would have had you increasing exposure in 2007 as volatility was low, and decreasing exposure in 2009 as volatility was high – the exact opposite of the valuation-driven approach. As Keynes¹⁰ stated, “It is largely the fluctuations which throw up the bargains and the uncertainty due to fluctuations which prevents other people from taking advantage of them.”

II. Leverage

I’ve already discussed leverage in the previous section, enough said I think.

III. Lack of robustness

There are no general results for risk parity. That is to say that adding breadth doesn’t necessarily improve returns. The returns achieved in risk parity backtests are very sensitive to the exact specification of the assets used (i.e., J.P. Morgan Bond Indices vs. Barclays Aggregates). Furthermore, decisions on which assets to include often appear fairly arbitrary (i.e., why include commodities, which, as Ben Inker has argued, may well not have a risk premia associated with them). All in all, the general lack of robustness raises the distinct spectre of data mining, and hence fragility.¹¹

IV. Valuation indifference

Proponents of risk parity often say one of the benefits of their approach is to be indifferent to expected returns, as if this was something to be proud of. I’ve heard them argue that “risk parity is what you should do if you know nothing about expected returns.” From our perspective, nothing could be more irresponsible for an investor to say he knows nothing about expected returns. This is akin to meeting a neurosurgeon who confesses he knows nothing about the way the brain works. Actually, I’m wrong. There is something more irresponsible than not paying attention to expected returns, and that is not paying attention to expected returns *and* using leverage!

As with risk factors (and smart beta), risk parity ultimately comes down to portfolio construction. It is implemented via assets, and can thus be priced. Anna Chetoukhina and I have constructed¹² a model risk parity portfolio using just three simple assets: U.S. equities, U.S. bonds, and U.S. cash. We constructed our risk parity portfolio to have the same volatility as a 60/40 equity/bond portfolio. The relative performance of our risk parity strategy against the 60/40 portfolio is shown in Exhibit 12. As per Anderson et al¹³ four distinct periods of performance can be identified. In

⁸ J.M. Keynes, *The General Theory of Employment, Interest and Money* (1936).

⁹ See B. Inker, “The Hidden Risks of Risk Parity Portfolios,” March 5, 2010 and J. Montier, “I Want To Break Free, or, Strategic Asset Allocation Is Not Static Allocation,” May 25, 2010. Each of these GMO white papers is available to registered users at www.gmo.com.

¹⁰ Ibid.

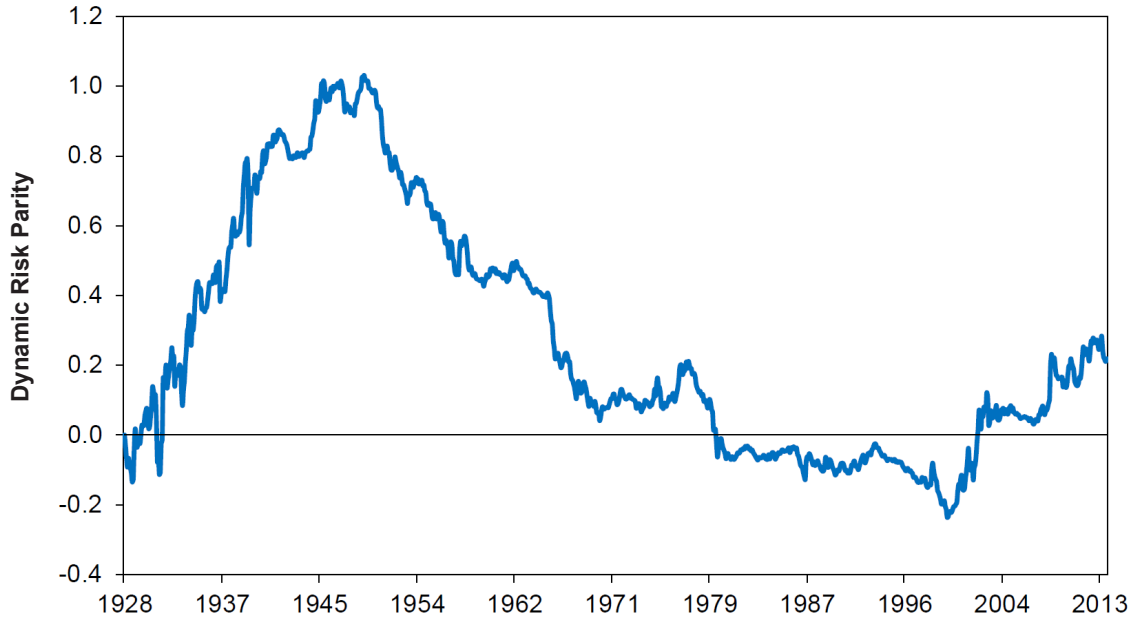
¹¹ D. Chaves, J. Hsu, F. Li, O. Shakernia, “Risk Parity Portfolio vs. Other Asset Allocation Hueristic Portfolios,” *Journal of Investing* 20, no. 1, p. 108-118 (Spring 2011).

¹² Obviously Anna did all the hard work, and deserves the credit.

¹³ R.M. Anderson, S.W. Bianchi, L.R. Goldberg, “Will My Risk Parity Strategy Outperform?” (2011).

the early sample (1926-1945) risk parity is an undisputed victor in the performance sweepstakes. However, as they say, payback is a bitch: in the period 1946-1982, the 60/40 took sweet revenge. During the long bull market (in both stocks and bonds) of 1983-2000, the strategies were approximately tied. In the more recent period (2001-2010), risk parity is once more faring better.

Exhibit 12
Relative Performance of Risk Parity vs. 60/40



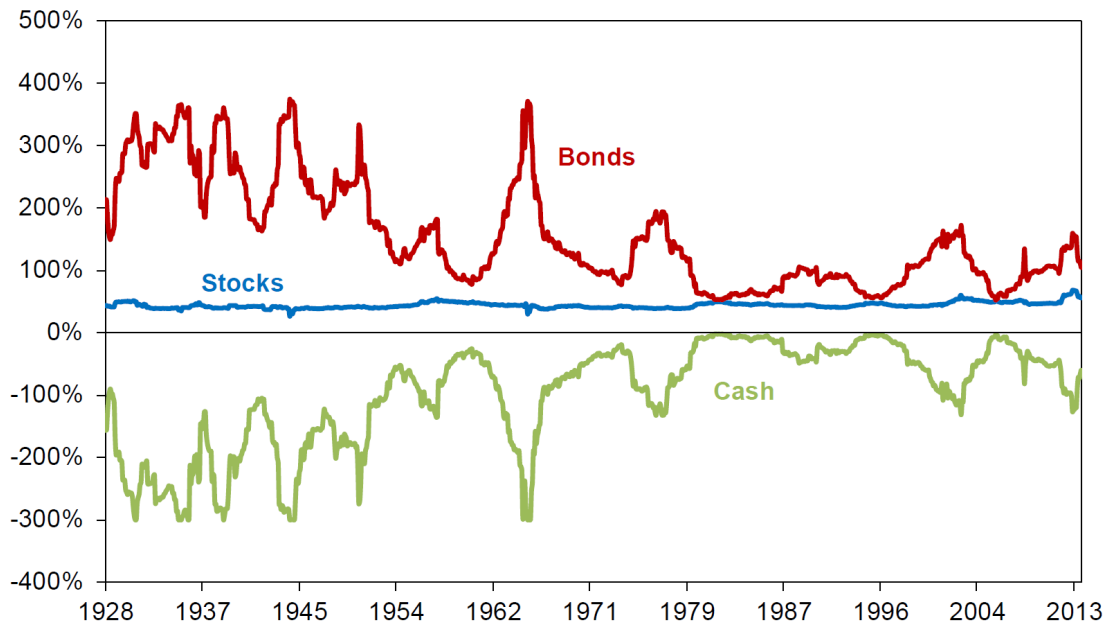
Please see the note on page 20 regarding this exhibit.

Source: GMO

Of considerably more interest to me than the performance were the weights held by the risk parity strategy over time (see Exhibit 13). On average the strategy held 44% in stocks, 155% in bonds, and was short 99% cash. The weights, of course, varied considerably over time.

Exhibit 13

Weights of the Assets Held in Dynamic Risk Parity



Please see the note on page 20 regarding this exhibit.

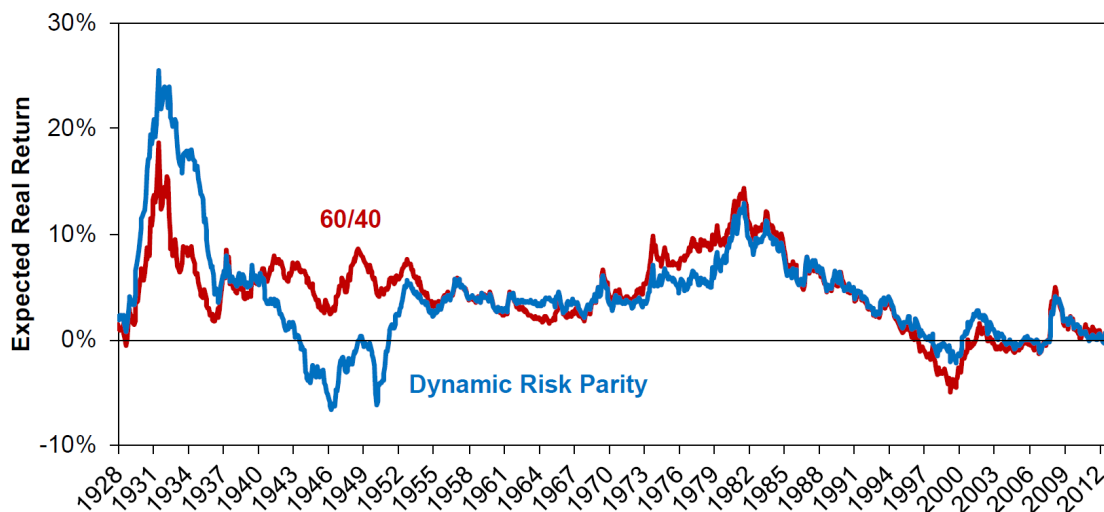
Source: GMO

Using these exposures we can apply our expected returns to see what risk parity is priced to deliver (an anathema to the disciples of this strange art, no doubt). The results of this assessment can be found in Exhibit 14. Over long periods of time risk parity doesn't look very different in return space from a 60/40 portfolio. Currently both the 60/40 portfolio and risk parity display the problems we have previously referred to as the purgatory of low returns.

This is certainly a problem for some of its proponents whom I have heard argue that 60/40 is priced currently to deliver a low return, and thus one should follow a risk parity approach!

Exhibit 14

Risk Parity Can Be Priced



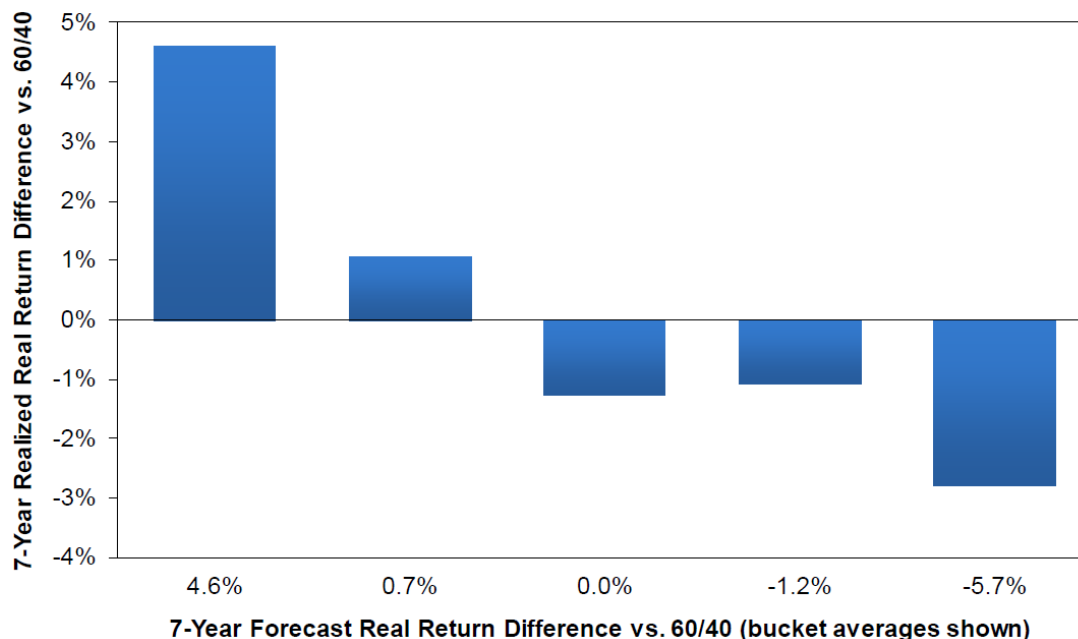
Please see the note on page 20 regarding this exhibit.

Source: GMO

Strangely enough, when risk parity is priced to do well relative to the 60/40, it does indeed do well. If you lever up cheap bonds you can get good outcomes (assuming you know something about the path those returns will take, of course). Similarly, if risk parity is priced to do worse than the 60/40, it tends to do so. If you lever up expensive bonds things don't tend to turn out too well. There is no magic to risk parity (see Exhibit 15).

Exhibit 15

No Silver Bullet: Risk Parity Works When it Is Priced to Work



Please see the note on page 20 regarding this exhibit.

Source: GMO

Real Assets = Insurance + Blind Statistics

So called “real asset” portfolios are really just an example of insurance,¹⁴ and whenever you consider insurance I’ve argued you need to ask yourself the five questions below:

1. *What risk are you trying to hedge?*
2. *Why are you hedging?*
3. *How will you hedge?*
 - o Which instruments will work?*
 - o How much will it cost?*
4. *From whom will you hedge?*
5. *How much will you hedge?*

In the final section of this paper I will address the third question in particular.

¹⁴ See J. Montier, “A Value Investor’s Perspective on Tail Risk Protection: An Ode to the Joy of Cash” (June 27, 2011) for our thinking on tail risk products generally. This GMO white paper is available to registered users at www.gmo.com.

Inflation hedges: will the real asset please stand up?

It is important to recognise the role of time horizon in inflation hedging. In thinking about short-term inflation, no asset I can think of acts like an inflation hedge without fail. Over longer periods of time, one or two assets may come closer to acting like inflation hedges. So, let's have a quick tour of some of the popular and possible "inflation hedges."

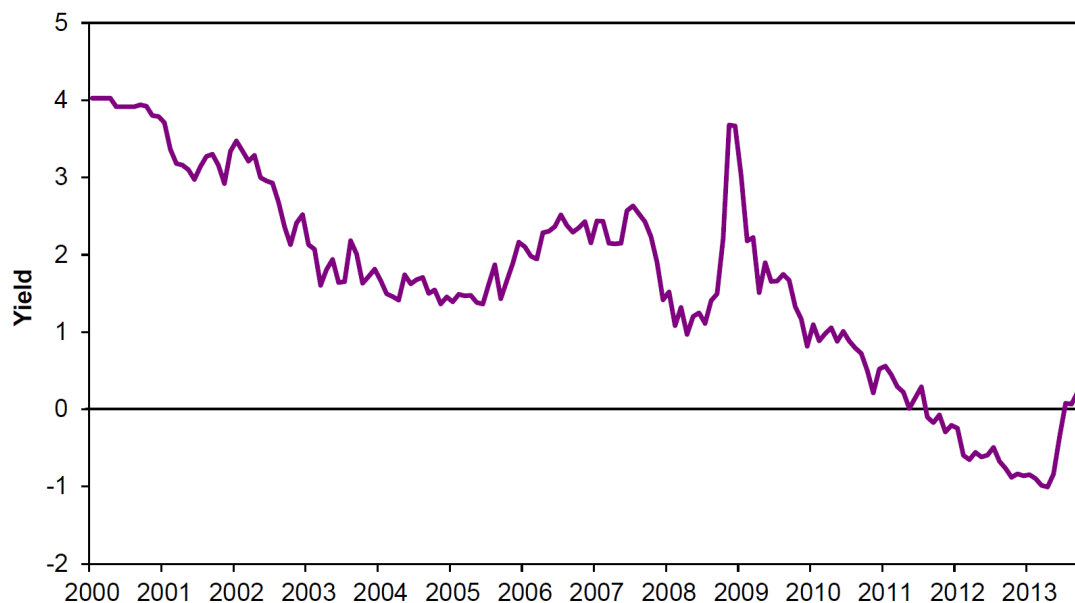
TIPS

This is, I believe, the one true long-term inflation hedge. TIPS (and their ilk around the world) clearly act as true inflation hedges (unless you want to go down the conspiracy theorist route of governments fixing inflation rates, in which case there isn't a lot I can do to help you). These bonds will protect you against inflation so long as you buy them (when issued) and hold them to maturity. However, they are clearly only a long-term inflation hedge. Their short-term returns can be very different because of shifts in real rates. Indeed, it is possible that TIPS returns and inflation could even be anti-correlated in the short term (since real rates might rise in response to an unexpected inflation shock, causing TIPS with real duration to decline).

When TIPS were introduced in 1997, they arrived on the scene with a real yield of nearly 3.3% and rose steadily over the next few years to yield roughly 4.2% by the beginning of 2000. To those of us from the U.K. this was bordering on the insanely generous – our own index linked bonds were yielding more like 2.5% at that time. Just imagine being paid almost 4.2% to own inflation insurance! Today, pricing is closer to 50 basis points for 10-year TIPS (see Exhibit 16). But if you are seriously worried about inflation¹⁵ then this is still insurance that pays you for owning it (as opposed to the expected negative value of most insurance).

Exhibit 16

Real Yield to TIPS



Source: Datastream

Cash

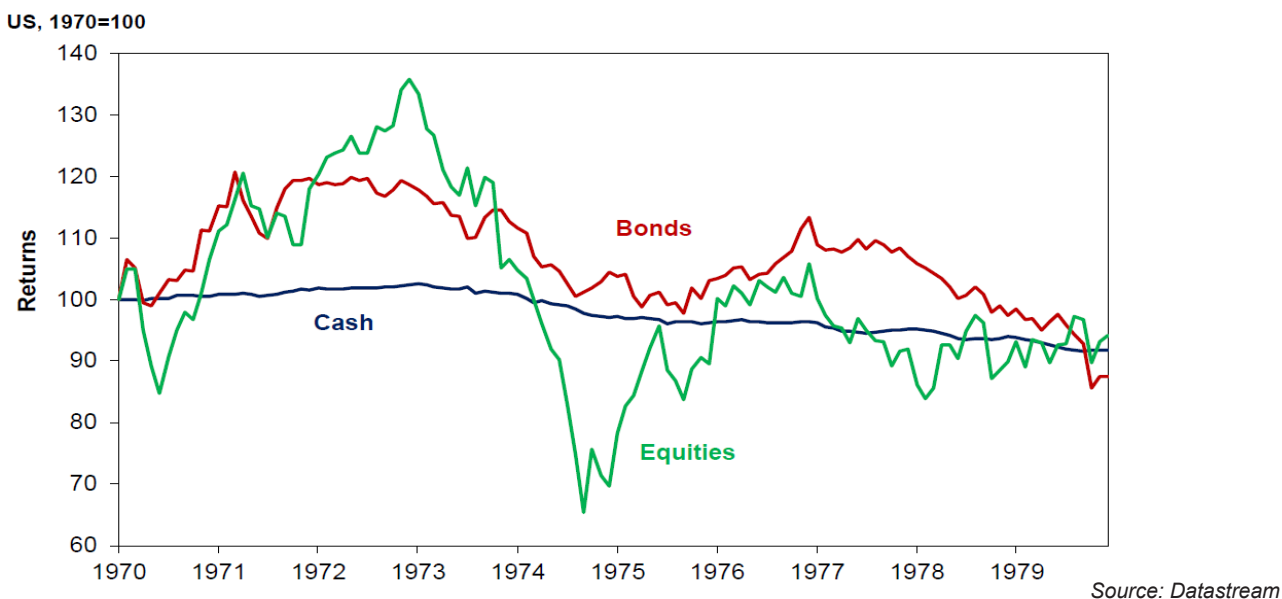
The extent to which cash acts as an inflation hedge is ultimately a function of the behaviour of central banks (i.e., those who set the cash rate). If central banks followed "Taylor rule"¹⁶ style policies, then cash should act as a pretty reasonable inflation hedge (as it has done over much of history). However, you are clearly at the mercy of policy

¹⁵ And I, for one, am not yet close to being worried about inflation. But that is a topic for another paper.

¹⁶ A formula designed to provide recommendations for how much a central bank should change the nominal interest rate in response to changes in inflation, output, or other economic conditions.

makers as the current situation makes all too clear. There is no guarantee that central banks won't opt for negative real interest rates (as per now, the joy of financial repression), in which case cash will clearly fail as an inflation hedge. (See Exhibit 17.)

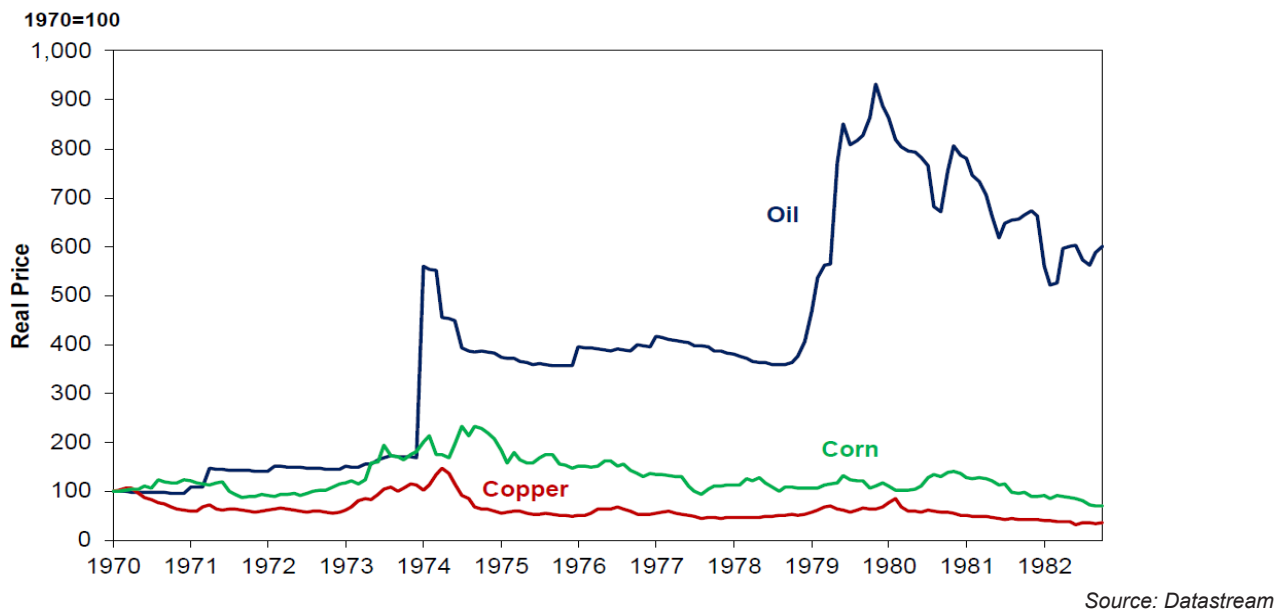
Exhibit 17
U.S. Cash, Bonds, and Equities in the 1970s



Commodities

Commodities are often seen as an inflation hedge, however this is almost entirely due to the experience of the 1970s and the creation of OPEC, and the domination of energy in the generally used commodity indices. If you had held the “wrong” commodities, their inflation hedging performance would have looked very different (witness copper and grain in Exhibit 18). If you owned the one commodity that experienced a massive supply shock (in the form of the creation of a cartel) you were fine; if you owned some of the others, it wasn't such a pretty picture.

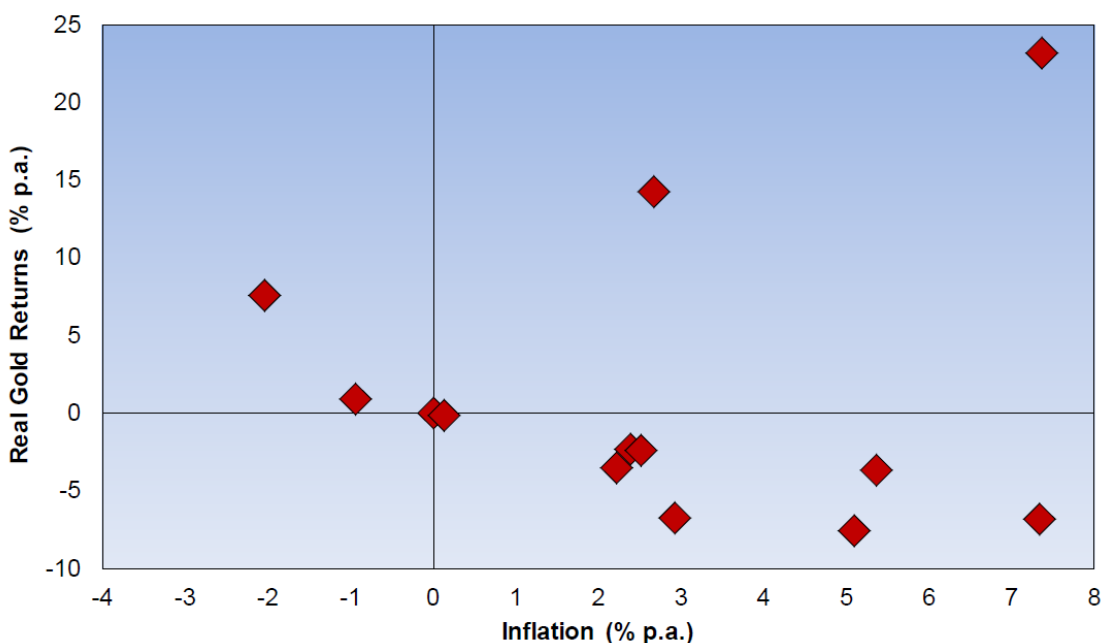
Exhibit 18
Selected Commodities Real Price



Thus, using commodities as an inflation hedge forces you to deal with a host of difficult questions: you must decide not only which commodities you will hold (i.e., what you expect the inflation shock to be driven by), but also the question of how you will hold these commodities (i.e., via futures), which raises issues that we have discussed before.¹⁷ If all of that wasn't enough, it also raises the perennial question of how you price and value commodities. It is far from clear that commodities are the inflation hedge they are often held to be; faith in blind statistics could be very dangerous.

Of course, one can't leave a discussion on commodities and inflation without talking about the bow-tie brigade's favourite asset of all time, gold. Gold is often held up as an inflation hedge. However, the data provide a challenge to this view. Exhibit 19 shows the decade-by-decade average inflation rate, and the real return to holding gold over the same decade. It doesn't make pretty viewing for those who believe gold is an inflation hedge. That perception is down to one decade (the 1970s) when it held that inflation and gold were positively correlated. The rest of the time there isn't a good relationship between gold and inflation.

Exhibit 19
Inflation and Real Gold Returns



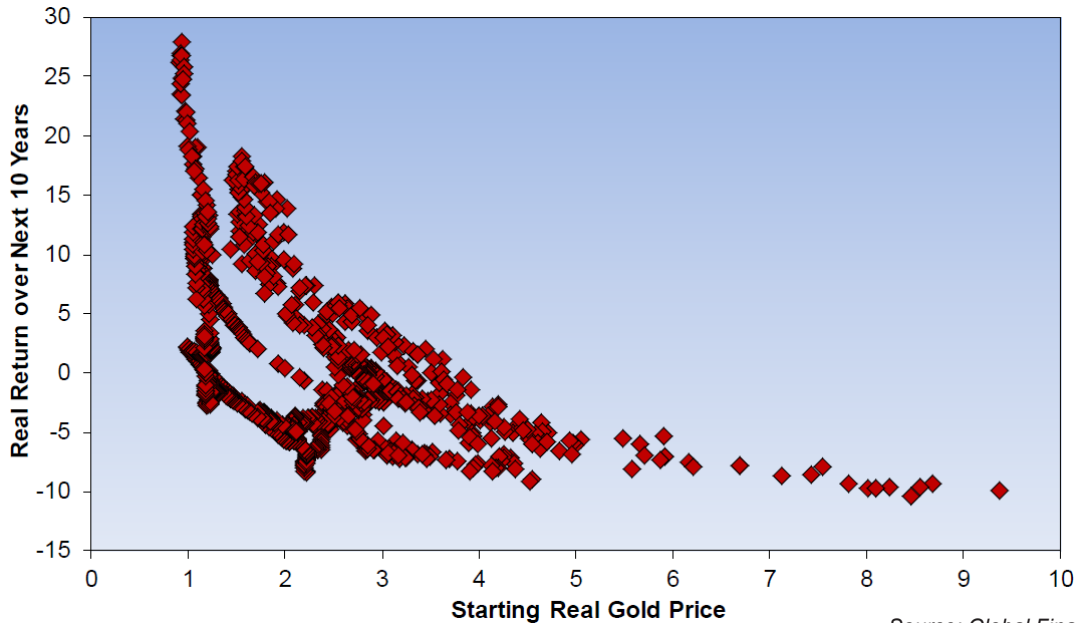
Source: Global Financial Data

Moreover, surprise, surprise, the price you pay seems to matter. As Exhibit 20 shows, when you pay a lot for the “insurance” of gold, you are likely to end up with pretty low (and often negative) real returns. This is a point I have made before with respect to insurance – it is as much a value proposition as anything else you do in investment. You want insurance when it is cheap, and you don't want it when it is expensive.

¹⁷ J. Montier, “I Want To Break Free, or, Strategic Asset Allocation Is Not Static Allocation,” May 25, 2010. This GMO white paper is available to registered users at www.gmo.com.

Exhibit 20

Real Gold Price vs. Real Returns



Source: Global Financial Data, GMO

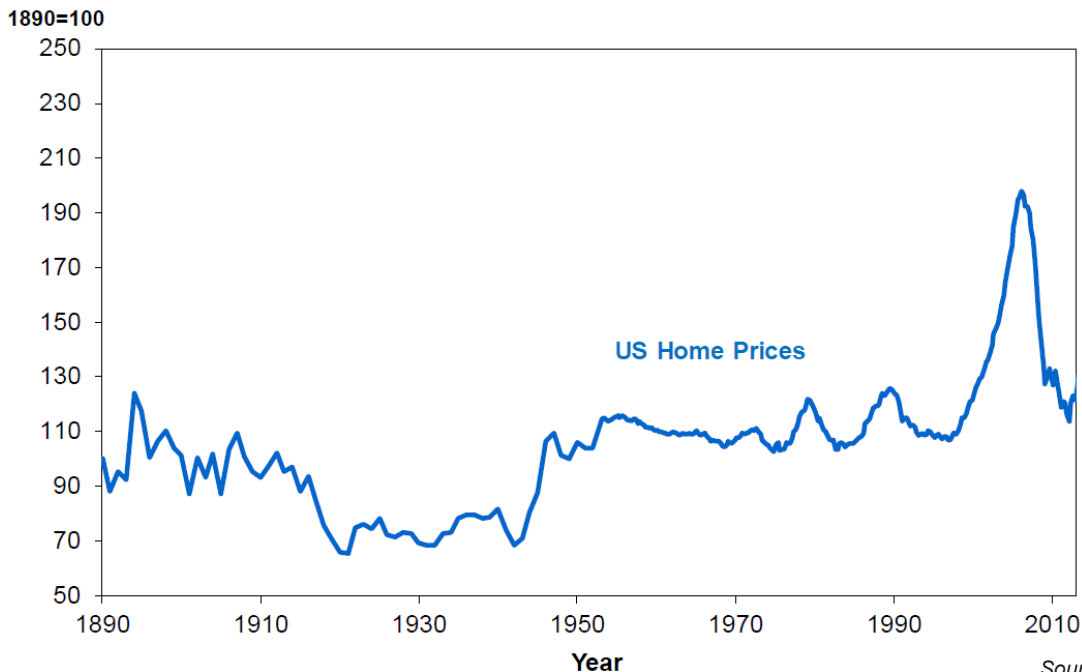
Real Estate

Real estate is often seen as an inflation hedge. The argument usually goes that the costs of new buildings are generally materials and labour. Existing property is held to be a close substitute for new buildings, so their value should be related to replacement costs. Additionally, it is held that the rental cash flows of properties are often linked to inflation.

In general it looks as if property does indeed act as a very long-term inflation hedge (see Exhibit 21). It doesn't appear to be a good short- to medium-term inflation hedge. But probably of greater importance is the fact that valuation matters. If you had bought U.S. property in 2007, Japanese property in 1989, or U.K. property in 1990 you would have seen your inflation protection more than offset by the expense of the asset.

Exhibit 21

Shiller Long-Term Data on Real House Prices



Source: Robert Shiller

Infrastructure

Infrastructure is similar in some fashion to real estate, often with a direct tie to inflation plus pricing (i.e., toll roads, transport services, etc.). However, simply because your top line is indexed to inflation plus doesn't automatically translate into a bottom line that is inflation protected. There is a lot that can go wrong from an investor's point of view between revenue and income. Additionally, as with many forms of real estate, infrastructure investment tends to come pre-packaged with large dollops of illiquidity risk as well.

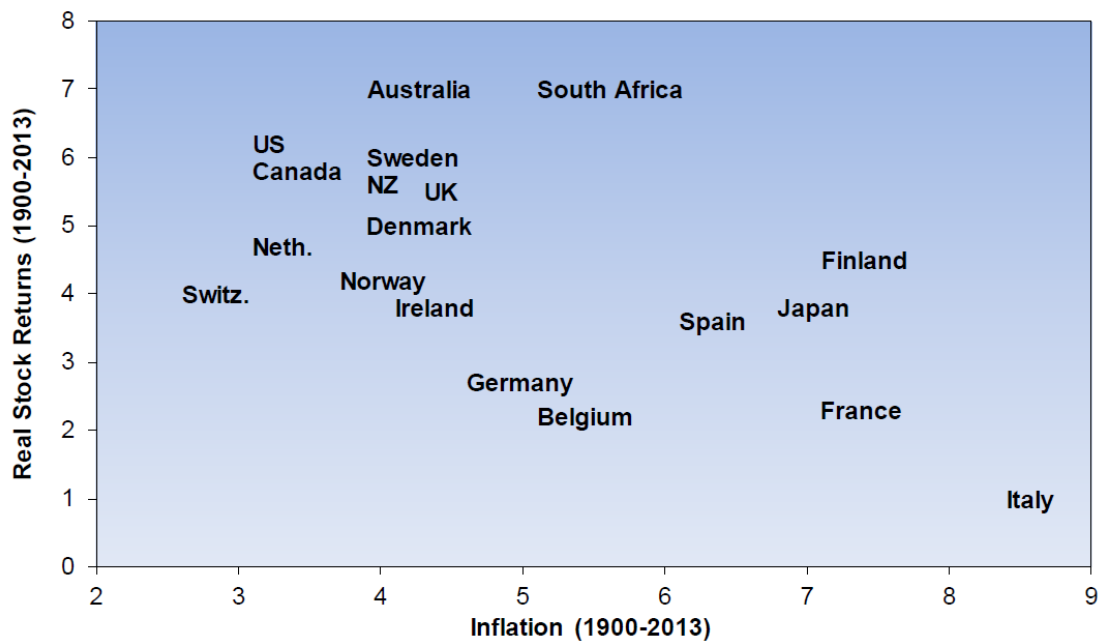
Equities

Equities are generally an underappreciated inflation hedge. Ultimately equities are claims on real assets, and thus a pretty good inflation hedge. In the short term they can be lousy because discount rate effects dominate. That is to say, inflation hits, real interest rates rise, and equities get hurt. However, providing the increase in real rates isn't permanent, this represents a form of myopia. Equities are the stock of corporates and some of those corporates will have pricing power, and thus their cash flows will rise with inflation. From a very long-term perspective, inflation should be a wash for equities.

This is confirmed by Exhibit 22, the inspiration for which came from reading William Bernstein's excellent Deep Risk. It shows the real return to various international equities against their long-term inflation rates. It is important to note that for equity holders there has never been a permanent impairment of capital caused by inflation. Even Germany, with its hyperinflationary episode, and Italy, with its chronic inflation, have managed to deliver positive real returns to investors.

Exhibit 22

Real Equity Returns and Inflation (1900-2013)



Source: Dimson, Marsh, Staunton (2013)

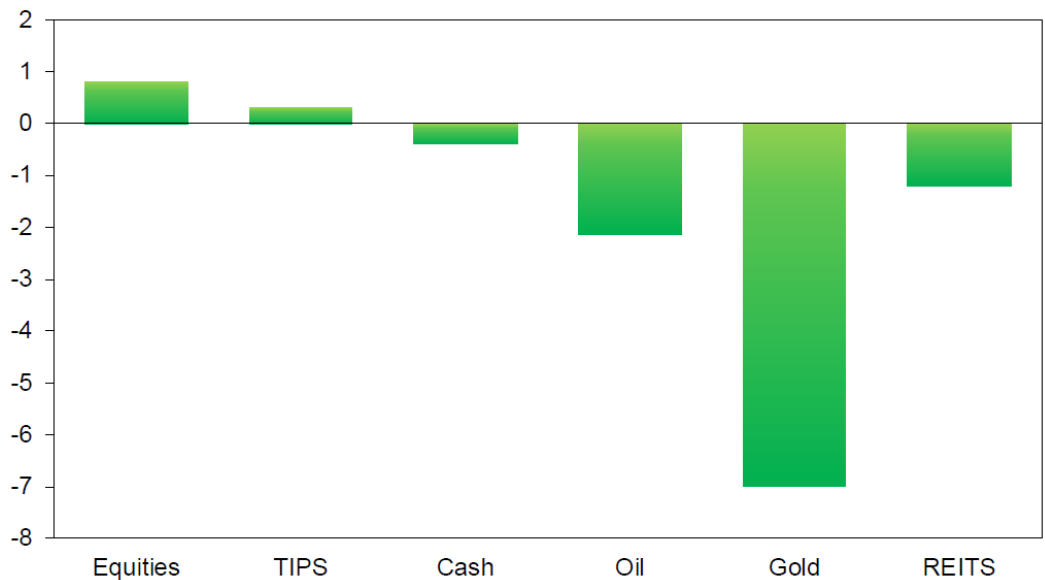
Having completed our whistle-stop tour of possible inflation hedges, we can conclude by saying there are no good hedges against short-term inflation. Several of the usual suspects for inflation hedging are dubious in terms of their likely efficacy. Others come pre-packaged with illiquidity risk, which is not easily unpacked. In terms of good long-term inflation hedges, TIPS really stand out, and, to a lesser extent (i.e., even more patience is required), equities do as well.

In terms of the pricing range of inflation hedges, interestingly only TIPS and perhaps some selected equities actually seem to offer a positive return, and as noted above it is always nice to find insurance with a positive expected return.

Thus, if you are really worried about inflation, then owning some TIPS and some (selective) equities seems like a pretty reasonable idea (see Exhibit 23).

Exhibit 23

The Pricing of Inflation Hedges (7-Year Expected Real Returns)



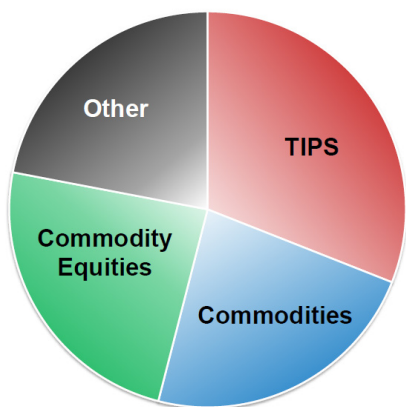
The expectations provided above are based upon the reasonable beliefs of the Asset Allocation team and are not a guarantee. Expectations speak only as of the date they are made, and GMO assumes no duty to and does not undertake to update such expectations. Expectations are subject to numerous assumptions, risks, and uncertainties, which change over time. Actual results may differ materially from those anticipated in the expectations above.

Source: GMO

How does this combination compare with a “typical real asset/inflation hedge” portfolio? As Exhibit 24 shows, the typical real asset fund holds a significant amount of TIPS, which I can’t disagree with. However, it also holds significant amounts of commodities and commodity-related equities (which is just doubling up the bet). These are far less obvious in terms of their inflation hedging capability as discussed above. Finally, the typical fund holds a bucket of other stuff, ranging from Master Limited Partnerships to emerging market currencies. The inflation protection properties of this bucket are certainly unproven. To me, these portfolios look likely to be expensive ways of hedging inflation compared to simply owning TIPS and equities.

Exhibit 24

A Prototypical Real Asset Fund



The above chart was derived from a selection of five funds and does not represent any GMO fund or strategy.

Source: GMO

Conclusion

The one thing that unites everything I've been writing about in this paper is the **golden rule of investing: no asset (or strategy) is so good that you should invest irrespective of the price paid.** If when buying a house the mantra is "location, location, location," when thinking about any investment (be it an asset or a strategy), the equivalent refrain should be "valuation, valuation, valuation." We would argue that one of the myths perpetuated by our industry is that there are lots of ways to generate good long-run real returns, but we believe there is really only one: buying cheap assets.

Mr. Montier is a member of GMO's Asset Allocation team. Prior to joining GMO in 2009, he was co-head of Global Strategy at Société Générale. Mr. Montier is the author of several books including "Behavioural Investing: A Practitioner's Guide to Applying Behavioural Finance; Value Investing: Tools and Techniques for Intelligent Investment"; and "The Little Book of Behavioural Investing." Mr. Montier is a visiting fellow at the University of Durham and a fellow of the Royal Society of Arts. He holds a B.A. in Economics from Portsmouth University and an M.Sc. in Economics from Warwick University.

Note for Exhibits 12, 13, 14, and 15: Simulated results are calculated by the application of a model and on assumptions integral to the model which may or may not be testable. The simulated 60/40 portfolio is a 60% weight in U.S. equities and 40% in U.S. bonds. The Dynamic Risk Parity simulated portfolio is using a risk parity approach using U.S. equities, U.S. bonds and U.S. cash leveraged to the same volatility as the 60/40 simulated portfolio. Certain assumptions have been made for modeling purposes and are unlikely to be realized. No representations and warranties are made as to the reasonableness of the assumptions. Simulated expectations are developed with the benefit of hindsight and have inherent limitations. Specifically, simulated results do not reflect actual trading or the effect of material economic and market factors on the decision-making process. Because trades have not actually been executed, results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Actual performance may differ significantly from the simulated expectations shown. Simulated expectations are gross of any fees or expenses. Simulated expectations are not intended to represent the performance of any GMO fund or strategy.

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