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I Want to Break Free, or, Strategic Asset Allocation ≠ Static Asset Allocation

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Of Typewriters and Benchmarks

In the English speaking world, we all use keyboards known as QWERTY. However, this well-known keyboard is not optimal. When you prepare to type, your hands rest on the second row of letters known as the home row. Now, you might be forgiven for thinking that the most frequently used letters would appear in this row in order to minimize travel of the fingers. However, this isn't the case. In fact, only 32% of strokes are on the second row, while 52% of strokes are on the upper row. Other such quirks include two of the least used letters in the English language, J and K, positioned on the home row. And this is only the start of a long list of inefficiencies with this keyboard.¹

So, why do we still use the QWERTY keyboard? The answer lies in historical inertia. QWERTY was originally designed in 1874. It was built to solve a specific technological problem with early typewriters: when keys were struck in rapid succession, the hammers that hit the ink ribbon would often jam together. The QWERTY layout was designed specifically to slow typists down. Letters that frequently occurred close together in words were spaced irregularly on the keyboard, causing the typist to pause, thus reducing the likelihood of jamming hammers. So, due largely to technological limits, the first commercially produced typewriters were manufactured with the QWERTY keyboard. Users became adept with QWERTY, and this comfort level acted as a barrier to change. This barrier created enormous inertia such that the majority of us use QWERTY today, despite the fact that more efficient keyboard layouts are available.

I maintain that policy benchmarks are the QWERTY of the investment world. They are effectively an accident of history, and if you were starting afresh today, you probably would not come up with a policy benchmark.

It often strikes me that questions surrounding investment are rarely answered from an investment perspective. For instance, when discussing the death of policy portfolios, one of the questions I encounter most often is, "So, how should we measure you?" It appears that many investors prefer measurement precision over investment returns.

In this paper, I argue that policy portfolios and various successors (such as risk parity and life-cycle/glide-path funds) are deeply flawed from an investment perspective. In particular, two common failings they share are a mismeasurement of risk and an indifference to valuation. I conclude that a strategic asset allocation that alters the asset mix based upon the opportunity set offered by Mr. Market makes far more sense from an investment perspective. (In modern parlance, this translates as a benchmark-free, real return focus.)

A Brief History of Time

In the beginning (or, given that my current reading consists of bedtime stories for my daughter, once upon a long ago \ldots), there was the idea of investment – straightforward, unconstrained investment. It was a simpler, happier time, when the essence of investment was to seek out value; to buy what was cheap with a margin of safety. Investors could move up and down the capital structure (from bonds to equities) as they saw fit. If nothing fit the criteria for investing, then cash was the default option.

¹ For more on the problems of QWERTY see Jared Diamond's "The Curse of Qwerty," *Discover Magazine*, April 1977 (http://discovermagazine.com/1997/ apr/thecurseofqwerty1099).

But all of that changed with the rise of modern portfolio theory and, not coincidentally, the rise of "professional investment managers" and consultants. To wit, consultant Douglas Love wrote the following in the *Financial Analysts Journal* in 1974 (the same year that ERISA established the Prudent Man Standard): "The client should base his policy decision on an 'efficient market' approach, assuming that current market prices reflect what is known about the future To have an investment policy is to have no outlook." In many ways, the rise of professional money management and the obsession with measurement has killed the very essence of the prudent man (Exhibit 1).

Exhibit 1: Did institutional investment kill prudent man? % of US market controlled by institutions



Source: Federal Reserve Flow of Funds

Charlie Ellis was one of the most vocal proponents of the policy portfolio. In his highly influential 1985 book, *Investment Policy: How To Win the Loser's Game*, Ellis espoused, "The single most important dimension of your investment policy is the asset mix, particularly the ratio of fixed-income investments to equity investments."

The determination of the asset allocation policy target and ranges was generally based on historical asset class returns. Brinson, Hood, and Beebower² (BHB) was a landmark paper during the rise of the policy portfolio (and has the dubious honor of being the most widely misunderstood paper in the history of finance). They reported that investment policy (measured as the average quarterly exposure to stocks, bonds, and cash) explained 93.6% of the variation of quarterly portfolio returns. (Note that is not the same thing as saying that the policy mix determines 93.6% of the returns, which is often referred to in marketing literature by those who have misunderstood the BHB paper.) Based on this finding, BHB argued that investors should follow a hierarchy of investment decision making, with the first steps aimed at defining the policy portfolio, "deciding which asset classes to include and which to exclude from the portfolio…deciding upon the normal, or long-term, weights for each of the asset classes allowed in the portfolio."

In the same year as the BHB study, Brinson co-authored a paper with Diermeier and Schlarbaum,³ in which they recommended constructing a policy portfolio based on Markowitz mean-variance optimization. The authors argued

² Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower, "Determinants of Portfolio Performance," *Financial Analysts Journal*, July/August 1986.

³ Gary P. Brinson, Jeffrey J. Diermeier, and Gary G. Schlarbaum, "A Composite Portfolio Benchmark for Pension Plans," *Financial Analysts Journal*, March-April, 1986.

that forecasts of returns, standard deviations, and correlation coefficients could be based on historical long-term rates of return because the benchmark serves as a "normal" policy. Inputting these factors into a standard optimizer gives an efficient frontier, on which lies the 60/40 equity/bond benchmark (Exhibit 2). Our industry has been laboring under this approach ever since.





Source: Fidelity

Problems with Policy Portfolios

Problem 1: Risk isn't volatility. To begin, we should ask ourselves why we are concerned with volatility as a measure of risk. Modern portfolio theory is so entrenched in the innermost workings of the world of finance that risk is typically defined as standard deviation or variance.

However, risk isn't a number. It is a concept. Ben Graham argued that we should focus on the danger of permanent loss of capital as a sensible measure of risk: What is the chance that I will see my capital permanently impaired by this investment? This strikes me as a much more sensible viewpoint than the mathematically elegant but ultimately distracting practice of assuming that risk is equivalent to standard deviation.

Volatility creates opportunity, not risk. As John Maynard Keynes long ago opined, "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."⁴

For instance, let's look at equity volatility. Exhibit 3 shows a measure of the volatility of the S&P 500. Were equities more risky in late 2007 or early 2009? If you follow the edicts of standard finance, then 2007 was a much less risky year than 2009. Now, tell me again that risk and volatility are the same thing!

⁴ John M. Keynes, The Collected Writings of John Maynard Keynes; Volume XII: Economic Articles And Correspondence; Investment and Editorial.



Source: GMO, SG

Problem 2: Valuation indifference. The second problem is that the policy portfolio ignores one of the most powerful concepts when it comes to investment, and the closest thing we have to a law of gravity within the world of finance: value. Why would a fund want the same level of exposure to the stock market when the equity market is trading on 45x 10-year earnings, as when it is trading on 10x 10-year earnings? Or, indeed, why would you want to hold the same number of bonds when they are yielding 2% as you would when they are yielding 12%? (See Exhibits 4 and 5.)







Problem 3: Benchmarking alters behavior. The third problem is that benchmarking tends to alter investment managers' behavior along three important dimensions. First, managers motivated to compete against an index may lose sight of whether an investment is attractive or even sound in an absolute sense. They focus upon relative, not absolute, valuation.

Second, as soon as you give a manager an index, the measure of "risk" changes to tracking error: how far away from the benchmark are we? Sadly, in a benchmark-tracking-error, career–risk-dominated world, Keynes' edict that "It is better for reputation to fail conventionally than to succeed unconventionally" governs the day. For benchmarked investors, the risk-free asset is no longer cash, but the index that they are compared against.

This is evidenced by the drive to be fully invested at all points in time. After all, if the goal is to beat the market without falling significantly behind, it makes sense to remain 100% invested. (Witness Exhibit 6, which shows the relentless decline in cash levels in U.S. equity mutual funds.) Remaining fully invested at all times means that the investor simply chooses the best available investment. Relative attractiveness becomes the only investment yardstick.





Finally, benchmarked managers start to think about return in a relative sense as well. I've always hated the idea of sitting in front of a client having lost money, but claiming good performance because I'd just lost less than an index. That very concept sticks in my craw as an investor.

The bottom line is that, effectively, everything becomes relative (risk, return, and valuation) in a benchmarked world.

Problem 4: Not enough return. The fourth problem with the policy portfolio is not a theoretical challenge to its logic, but an empirical one. What happens in a world of low returns? The average pension fund for an S&P 500 company assumes an 8% return on pension assets. If we assume a 60/40 benchmark, this translates into a 10.5% return on equities, given the current 4% nominal return on bonds!

On the basis of GMO's 7-year asset class return forecasts, a more likely outcome for the 60/40 benchmark is a nominal return of under 4.5% (Exhibit 7). If our view of the world (based on mean reversion) is correct, then either pension plans have to dramatically lower their assumptions (never a palatable solution), or they have to come up with a different approach. Strangely enough, the second course of action has proved more popular than the first.



Exhibit 7: What happens in a low return world

Source: GMO

Projections are based upon the reasonable beliefs of GMO and are not a guarantee of future performance. Actual results may differ materially.

First Generation Solution: Let's All Look Like Yale

The first generation solution to the low potential return of the policy portfolio was aptly described by Jeremy as "Let's all look like Yale."⁵ In essence, this "solution" (aka the endowment model) was diversification into a broader group of traditional assets coupled with the expansion of the portfolio into the non-traditional (and less liquid) assets such as private equity, commodities, and hedge funds (Exhibit 8).

⁵ Jeremy Grantham, 3Q 2006 Quarterly Letter, "O, Brave New World I," available at www.gmo.com (registration necessary).

Exhibit 8: Yale's portfolio over time

Asset Class	1985	1990	2008
Domestic Equity	61.6%	48.0%	10.1%
Foreign Equity	6.3%	15.2%	15.2%
Absolute Return	0.0%	0.0%	25.0%
Private Equity	3.2%	6.7%	20.2%
Real Assets	8.5%	8.0%	29.3%
Fixed Income	10.3%	21.2%	4.0%
Cash	10.1%	0.9%	-3.9%

Source: Yale University

Problems with "Let's All Look Like Yale"

Of course, the same four problems outlined with the original policy portfolio are also present with the first generation solution. But, in addition, the "Let's all look like Yale" solution created some issues all of its very own.

Problem 1: Diversification was often returns chasing. If diversification was valuation driven, I'd have nothing to moan about. Moving into any cheap asset class is going to be difficult for me to argue with. Unfortunately, all too often these moves have been characterized by investors dashing after the latest, hottest fad in the markets. Witness the charts below (Exhibits 9-12); the inflows into private equity have soared in the last few years, and done so at a time when the valuations of the deals done were relatively high (which, surprise, surprise, generally implies low returns).







Problem 2: Diversification in name only. The second problem is that much of the diversification was in name only. For instance, cast your eye over Exhibit 13. It shows the median correlation of returns among hedge fund strategies (as measured by Hedge Fund Research's indices). Bear in mind that this correlation encompasses strategies as diverse as convertible arbitrage, global macro, long/short equity, and relative value. One would expect a low correlation *a priori*. However, the correlation revealed by the data is extraordinarily high, at nearly 90%. It would appear as if all of the hedge funds are doing exactly the same thing – riding momentum/selling volatility.





Source: GMO, Hedge Fund Research

Problem 3: It's poker, not roulette (endogenous risk). The idea of an overcrowded trade takes us neatly to our third problem with the "Let's all look like Yale" portfolio. It utterly fails to show any understanding of the potentially endogenous nature of risk. Very often, investment is akin to playing poker rather than playing roulette.

In roulette, the behavior of others at the table is irrelevant to you. You are simply betting against the house (we'll call this exogenous risk). However, in poker, the behavior of the other players is obviously all important (we'll call this endogenous risk). The latter is a closer analogy to markets. It also highlights the risk that investors alter the returns they are likely to receive by chasing after them (the financial equivalent of the Heisenberg uncertainty principle or the Hawthorne effect, perhaps).

A prime example of this problem is provided by commodities. From my perspective, the chief problem with commodities is that they are tough to value. Unlike a bond or an equity, the absence of a cash flow creates the lack of a valuation anchor. However, this difficulty didn't stop investors from flooding into commodity investments in the latter half of the last decade.

More often than not, this was done via tracking an index of commodity futures such as the GSCI. Commodity futures returns have three components to them. The most obvious component is the spot return (the price change in the underlying commodity). The second element is the roll return, which is derived from rolling forward existing futures contracts. If the futures contract is negatively sloped, reflecting the fact that commodity producers are willing to accept a lower future return to remove price uncertainty, and the price has not changed by the time the contract expires, the investor gains the difference between the actual price and the futures price.

Of course, this only holds if the futures curve is negatively sloped (backwardation). If the curve is positively sloped (contango), then the contract is rolled forward at a loss to the investor (Exhibit 14).





The third component of the return is the collateral return. Since futures take up less cash than a position in the physicals, the surplus cash can be invested into a cash instrument with an obvious yield return.

When I originally pondered the use of commodities as an investment back in 2005,⁶ I argued, "If commodity futures markets are increasingly dominated by speculators, then the insurance premium arguments that generate backwardation are likely to be eroded and even reversed."

Nothing has changed to alter this viewpoint. Exhibit 15 shows the percentage of the commodity futures markets accounted for by speculators. In the early 1990s, speculators accounted for around 25% of the total commodity futures markets. However, over the last decade and a half this has soared to nearly 50%. So almost half of the entire commodity futures markets is a reflection of those without any commercial interest in the underlying good.



Exhibit 15: % of the commodity futures markets accounted for by speculators

⁶ See chapter 49 of Montier (2007) *Behavioural Investing*.

Source: CFTC, GMO

As was to be expected, this has altered the term structure of commodity futures, such that contango is considerably more common than backwardation. Indeed, 24 out of the 29 commodities we checked showed contango patterns (hence the futures curves we showed in Exhibit 14 were from 2005). Thus, the roll return has become negative, undermining, with delicious irony, one of the key reasons for investing in commodities.

Exhibit 16 shows the breakdown of returns from 1970 to 2000, as well as the returns over the last decade (during which commodities have come to be seen as an investment asset).



Exhibit 16: Breakdown of the total return to commodity futures investing

The total return on commodity futures investing since 1970 has been around 10% annually. Based on the work I did in 2005, I argued that the total return could easily be half of its historical level. From 2000 to 2010, commodities futures investing (as proxied by the GSCI) has returned 4.8% annually.

Strangely enough, the "Let's all look like Yale" solution has proved to be more of a problem than a panacea. Not to be easily defeated, the "engineers of innovation" (believe it or not, one of my business cards from my years in investment banking carried that strap line!) went back to the drawing board and came up with...

Second Generation Solution: Let's All Look Like Bridgewater

Einstein allegedly defined madness as doing the same thing over and over again, yet expecting a different outcome. It appears that some pension funds have yet to understand this fallacy. Having been burnt by equity volatility, hedge funds, and private equity, apparently pension plans are turning to the latest bad idea du jour – risk parity investment.

As ever, one should be leery of financial innovation. As J.K. Galbraith observed, "The world of finance hails the invention of the wheel over and over again, often in a slightly more unstable version." All too often, so-called financial innovation is revealed to be little more than thinly veiled leverage. Risk parity is no exception.

The basic idea behind risk parity is that a traditional 60/40 equity/bond benchmark may look roughly balanced from a capital allocation standpoint, but from a "risk" perspective, stocks contribute far more to the volatility. In fact, since 1980, stocks would have accounted for over 90% of the volatility of a 60/40 benchmark.

The solution to this disproportionate risk allocation to stocks, according to the fans of risk parity, is to reduce the weight of stocks in the portfolio, and increase the weight of bonds. For example, in a simple world where we have only equities and bonds, following such an approach would result in a 13/87 equity/bond allocation. Of course, this

would have a major impact upon returns. Instead of the 11% return achieved on a 60/40 portfolio, the risk parity portfolio would have returned 9% (over the period 1980-2009). Hardly ideal for pension funds looking to meet ambitious return targets (Exhibit 17).



"Never fear," say those promoting risk parity portfolios; all you need is a little leverage. If you are happy with the volatility of a 60/40 portfolio, then just leverage up the risk parity portfolio. In our simple example, ensuring that the risk parity portfolio and the 60/40 portfolio have the same volatility would result in a 15% return on the risk parity portfolio. "Job done," say the supporters of risk parity, as they recline in their chairs with smiles on their faces.

As Wilshire Consulting opined in a recent article,⁷ "Leverage helps the funds meet their [pension funds] long-term return targets without relying too heavily on volatile stocks, or tying up their money for long stretches in private investment." So, that's okay then!

The Flaws of Risk Parity⁸

Risk parity portfolios may sound impressive, as do most new "innovations" in finance. After all, that is why investors pay fees. However, they contain some deeply disturbing flaws.

Problem 1: Back to the very beginning. The most obvious flaw with the risk parity approach is the same as the first flaw we identified with the 60/40 benchmark: risk isn't volatility. Yet, this assumption is embodied at the very heart of the risk parity approach.

Now, I am claiming absolutely no special insight into the wonderful world of risk parity. However, it seems to me that if you are targeting constant portfolio risk and one of your assets increases in volatility, then you are likely to want to reduce it (i.e., sell as volatility rises, and buy as volatility falls). Take a look back at Exhibit 3. You would be selling throughout 2008 as the market fell and valuations improved, and you would be buying in 2009 as the market rose and valuations deteriorated. That sounds awfully like a momentum strategy of buying high and selling low, rather than a value strategy of buying low and selling high. However, that isn't the only potential problem.

Problem 2: Leverage is a two-edged sword. In order to make risk parity portfolios attractive, their proponents must deploy leverage. The fact that pension funds are looking to use leverage so soon after the most recent crisis should surely send shivers down one's spine.

⁷ Craig Karmin, "Public Pensions Look at Leverage Strategy," *The Wall Street Journal*, January 27, 2010.

⁸ For more on the dangers of risk parity, see Ben Inker's March 2010 white paper, "The Hidden Risks of Risk Parity Portfolios" available at www.gmo.com (registration necessary).

Leverage is a dangerous beast. It can't ever turn a bad investment good, but it can turn a good investment bad. Simply piling leverage onto an investment with a small return doesn't transform it into a good idea. Leverage can limit your staying power, and transform a temporary impairment (i.e., price volatility) into a permanent impairment of capital. Witness the example of Long-Term Capital Management in 1998 (Exhibit 18), or any of the investment banks in 2008.





Source: Lowenstein

Doesn't the thought of leveraging up very low bond yields worry anyone? No one can be sure whether we face a bout of inflation ahead, but it must certainly be a risk given the easy money policies of the world's central banks. Does leveraging an inflation-sensitive asset into this potential outcome make any sense at all? Not to me, at least. Nor, for that matter, would I generally consider leveraging up an asset after a 30-year bull market (Exhibit 19). Of course, it will make the returns look great on a back test, but the future performance may well be another matter.





Source: GMO

U.S. 10-year government bond yields

Some risk parity fans suggest that by leveraging up TIPS they are protected against the inflationary threat. While the use of index-linked bonds may protect against inflation, it certainly doesn't offer protection against a rising interest rate environment (which is among the most likely outcomes of an inflationary surge).

Alternative: I Want To Break Free!

As Ogden Nash observed, "Progress might have been alright once, but it has gone on too long." In my view, we need to return to a simpler, but more holistic, approach to investing.

Clients should liaise with their managers to set a "realistic" real return target (recognizing that available returns are a function of the opportunity set, not a function of the needs of the fund). After all, the aim of investing must surely be "maximum real returns after tax" as Sir John Templeton observed long ago. None but a few very lucky fund managers get to retire on relative performance.

Having defined the target, managers should be given as much discretion as possible to deliver that real return. This avoids the benchmark-hugging behavior that is typically induced by policy portfolios.

Of course, it creates problems for measurement. Indeed, as I mentioned at the beginning of this paper, the most common response when I present these arguments is, "So, how should we measure you?" This obsession with performance measurement at the expense of investment sense is disturbing to me. There is no easy mark to judge fund managers against. This may actually be a good thing. It may force investors to allocate capital on the basis of process: i.e., you will only let managers that you trust and understand run your money.

The common underlying flaws with all three generations of policy portfolios are that they mis-measure risk and are valuation indifferent (a charge that can also be levied at so-called life-cycle or target-date/glide-path investing schemes). Thus, an approach that combines a more sensible view of risk and a concern for valuation makes considerably more sense to me.

Risk clearly isn't a number. It is a multifaceted concept, and it would be foolhardy to try to reduce it to a single figure, not that that hasn't stopped risk managers from doing exactly that. To my mind, the permanent impairment of capital can come about for three reasons: 1) valuation risk – you pay too much for an asset; 2) business risk – there are fundamental problems with the asset you are buying; and 3) financing risk – leverage.

Note that this definition of risk puts valuation at its core, making value investing a truly risk-averse approach. Thus, taking a value-orientated view across asset classes and altering the exposure based upon valuation would seem to make a great deal of sense.

Of course, active asset allocation is most frequently thought of as "market timing," a term that tends to send investors running for the hills. Indeed, as it is often practiced (based on forecasts of the short-term fluctuations in markets), I would concur that market timing is a highly dangerous pursuit as it ignores the principle of a margin of safety.

The general dislike of market timing can be summed up by Graham and Dodd's statement, "It is our view that stock market timing cannot be done..." However, less well-known is the fact that he continues this sentence, "with general success, **unless** the time to buy is related to an attractive price level, as measured by analytical standards. Similarly, the investor must take his cue to sell primarily not from so-called technical market signals but from an advance in the price level beyond a point justified by objective standards of value."⁹

This is nothing more than a value-based, active asset allocation strategy. Of course, in order to pursue a value-driven approach, patience and a willingness to be contrarian are required.

Patience is needed for several reasons, the most pertinent of which is that valuations are only mean-reverting over relatively long periods of time. For instance, using the Graham and Dodd P/E measures, once a market is one standard deviation away from its long-run average, it takes, on average, 6 to 7 years for the series to cross the mean again.

⁹ Benjamin Graham and David L. Dodd, *Security Analysis*, McGraw-Hill, 1934.

Similarly, the evidence that GMO has collected on bubbles shows that they all burst, but can go on for prolonged periods (Exhibit 20).

Exhibit 20: All bubbles burst



Note: For S&P charts, trend is 2% real price appreciation per year.

A willingness to be contrarian is also vital. You will inherently be doing the opposite of what everyone else regards as sensible. Being a contrarian involves three separate elements: 1) having the courage to stand against the dominant view; 2) being an independent thinker; and 3) having the firmness of character to stick to your guns. All three of these traits are unnatural of human beings!

Providing that one can be patient and contrarian, there is simply no reason why strategic asset allocation implies static asset allocation. Changing the asset mix of your asset allocation in response to the fluctuating opportunity set offered by Mr. Market seems like common sense to me. Sadly, of course, common sense tends to count for little in the world of high finance!

Mr. Montier is a member of GMO's asset allocation team. He 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.

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^{*} Detrended Real Price is the price index divided by CPI+2%, since the long-term trend increase in the price of the S&P 500 has been on the order of 2% real.