

Adding a Managed Futures Strategy to Our Portfolios

***By Bob Marshalla
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Summary

I have decided to introduce a managed futures strategy into our investment portfolios for the first time. Managed futures is an investment approach that is applied to several asset classes rather than an asset class itself. Within our portfolios it will be counted as part of our Alternative Investments category.

My plan is to target 7% of our allocated assets to a new managed futures strategy mutual fund. I will attempt to introduce it in a way that is roughly risk neutral to our portfolios in the sense that the assets it displaces will in combination have about the same volatility as the new fund. My goal is to both boost portfolio returns and decrease overall portfolio volatility.

Why Managed Futures Now? And By What Means?

I have been intrigued by managed futures strategies for close to six years now, but have not heretofore been able to find a suitable investment vehicle for our portfolios. But with the launch of a new mutual fund this winter, I am excited to say that I have now finally done so. Although the mutual fund is new, neither its managers nor the strategy are, as they have been applying similar strategies within the hedge fund and institutional investing world for quite some time.

Until now, managed futures strategies were available mainly through hedge funds, which are not an attractive option for us in my opinion. Hedge funds tend to be ultra-expensive, opaque as to strategy, illiquid, subject to high minimums and unregulated as to consumer protections and performance reporting.

The new mutual fund we will be using is the AQR Managed Futures Strategy Fund (AQMIX) which was just launched in January by AQR Capital Management. AQR's most well known principal is Cliff Asness, who I consider one of the real "heavyweights" in both the academic and practical world of financial economics and investment management. In fact, Cliff Asness' academic research in the early 90's was instrumental in providing legitimate statistical confirmation of the momentum effect in asset prices that is the key to managed futures strategies¹.

Further, Cliff and other AQR personnel have provided articulate and compelling presentations about the particular strategy they are using in the new fund and why they

¹ Although the academic foundations for this investment approach were not put in place until the 90's, as is often the case in the investment world, practitioners had already been applying the approach some twenty years earlier.

believe it will work. Significantly, none of the problems alluded to for hedge funds apply here. The expense ratio, at 1.25%, is not that different from those of conventional equity funds and is very cheap for this kind of strategy. There is no profit sharing with the managers (as in most hedge funds), and the fund is registered as a standard 1940 Act mutual fund,² which means it is subject to all of the same reporting and consumer protection rules as any standard mutual fund. Furthermore, there are no important liquidity or minimum investment restrictions for us to worry about. Finally, and this is very important to me, AQR representatives are very knowledgeable and available to me to answer questions and engage in investment strategy discussions.

There is, to the best of my knowledge, only one other managed futures investment option available in a 1940 Act mutual fund format, but its drawbacks in my judgment are (1) that its strategy is overly simplistic, (2) its expense ratio at 1.75% is too high and (3) its management team has no one in the same league professionally as Cliff Asness³.

What Is a Managed Futures Strategy?

What is a managed futures strategy? At its core, it is a strategy for buying and/or selling short futures contracts in a number of asset classes. Commodity futures are the most well known area of application, but the strategies are also applied to currencies, equities and fixed income markets. Managed futures managers are usually registered as Commodities Trading Advisors (CTA's) or hedge fund managers. Most managed futures strategies are highly or entirely quantitative, statistical based approaches, although fundamental and/or macroeconomic analyses are occasionally part of the story.

The AQR fund that we will be using pursues a purely quantitative trend following strategy. It is important to understand what trend following means and how it is practiced. But first, we need to get an intuitive feel for what this is all about. It is helpful to start by thinking about a long only commodity futures strategy, such as we have utilized in our own portfolios for several years now. In such a strategy the fund managers seek to follow an index of numerous commodity futures (19 in the case of the index we follow). They buy commodity futures contracts a few months out, and hold them until a month or so before expiration. At that time they close them out, and use the sale proceeds to roll the holdings over into a new longer dated contract in the same commodity. No attempt whatever is made to forecast or outguess the market direction, so if and when commodity prices unexpectedly crash, like virtually all of them did in the summer of 2008, the investor can lose a lot of money. A CTA operating in these same markets, in contrast, can at any time as likely be long or short or uninvested in any of the individual commodity futures. In the summer of 2008, if such a CTA had been short in virtually *any* of the 19 commodities in our index (gold being the only exception) he could have done substantially better than a long only investor. The key of course is to have a good methodology for being on the right side of the price trends.

² A 1940 Act mutual fund is a fund that must follow all of the disclosure, reporting, suitability and other consumer protection rules set forth in a body of regulations dating back to an original law in 1940. Hedge funds by contrast are unregulated. The Bernie Madoff case is an egregious case of what this can lead to.

³ This is the [Rydex Managed Futures Strategy](#) (RYMTX). It seeks to passively follow a simply defined index for managed futures.

The key to most managed futures strategies is that there are trends that persist in the prices of the underlying assets. It is a momentum based strategy, which is to say it believes that what has been going up tends to keep going up for awhile, and what has been going down tends to keep going down, at least for awhile. This is not “a random walk down Wall Street”!

In my opinion, the most theoretically fascinating and practically useful research in financial economics over the past several decades all has to do with one simple question: Is there useful information in the past history of prices of a given asset? Indeed, the efficient market hypothesis itself (at least the so-call “weak form EMH”) is simply a one word answer to that very question: “no”. This was the central claim of Eugene Fama’s equity markets research published in 1963, and which was the seminal work creating the efficient market theory.

There has been a lot more research in the nearly five decades since then that has challenged that conclusion under various circumstances and for various asset classes. In fact, by now there is really no question that both trends and regression to the mean, (which is the opposite of trends) do exist over differing time horizons and can be measured in the prices of equities, commodities and other assets. The important question is whether they can be exploited by investors. This is a deep and many faceted question, and much larger than the purpose of this paper. But suffice to say I firmly believe the answer is “yes”, though as usual with many qualifying conditions and limitations as to degree.

While it took a long time to convincingly demonstrate the existence of trends and reversals⁴ in equity prices, this has been less difficult to observe and understand for commodities. Commodities are less abstract than stock prices. As a simple example, rainfall affects the prices of crops. If a draught is in effect, it is less likely to rain tomorrow than if normal conditions existed. So a trend does persist for some time, both regarding rainfall and the prices of the crops affected. But just as surely draughts do not last forever, so over a longer time horizon surely rain will return and the crop’s prices will fall back to something closer to normal. So what goes up eventually does come back down. In this example we see the existence of both trends and reversals. Or in more geeky terms, we see positive correlations in the time series over a short horizon, but negative correlations over longer intervals.

Figuring out a way to take advantage of such trends and/or reversals is the essence of a managed futures strategy. Different managers use different approaches to do so, but most of them work on relatively short time horizons and therefore focus more on trend following. Even so, a good manager knows that trends don’t last forever, and that eventually their opposite, reversals, take place. So even a pure trend follower needs to have a method of deciding when the party is over, or about to be over.

The AQR Managed Futures Strategy Fund

The strategy of the AQR fund in which we will invest focuses on three phenomena for each asset:

⁴ Reversals is another name for regression to the mean.

- Short term trends, looking at prices for the last one to three months,
- Longer term trends, considering prices over the past six to twelve months, and
- Over-extended trends, in which they search out indicators that a trend is nearly played out and ready to begin reversing.

Statistical tests are applied and each of these factors is given a score. If the first two factors' scores are strongly positive (i.e., prices are going up in both the shorter and longer horizons) and the third one is negative (no signs yet of over-extension), this calls for a large magnitude long position in the given asset. If the first two factors are negative, and the third positive, this calls for a large magnitude short position. If the signals for the three factors are mixed or weak, for example shorter term trend up, longer term trend down and over-extension metrics mixed, then the strategy calls for a lower conviction position, which could be a lower magnitude long or short position, or simply taking no position at all in that asset.

The fund continually monitors the futures prices of up to sixty different assets spread over four major asset classes⁵: commodities, currencies, government bonds and equity indexes. Further it applies its own brand of risk control to the strategy. It seeks to roughly equalize the contribution to overall fund volatility owing to each of the four major asset classes. Rather than allocate equal amounts of dollars to each of the four asset classes, it allocates just enough to each so that its risk contribution is about the same as the others. So, for example, if commodity futures are much more volatile than government bond futures, the fund would allocate less dollars to buying and shorting commodities than bonds.

To further limit risk, there is a drawdown control mechanism which essentially cause the fund to “pull in its horns” if it appears that drawdowns are in danger of exceeding certain thresholds.

A strategy like this entails more trading than is typical in the mutual funds we use. The fund does claim to employ “proprietary portfolio optimization techniques” to reduce the costs of trading. Still, the frequency of trading it must employ to execute its strategy will probably make it a less than tax efficient investment. I will try to locate the fund within tax advantaged accounts (like IRA's) to the extent possible.

The strategy employed here is a well defined quantitative approach, with no role for fundamental analysis or subjective judgment. It was developed, refined and tested using high powered statistical techniques. Although the mutual fund vehicle is brand new, the fund's managers have been employing essentially the same techniques for their hedge fund customers for years. So the strategy does have a track record. And even if it didn't, because it is a well defined quantitative strategy it can be back tested to demonstrate how well it would have worked over past years and decades. I have not seen the details of such back testing, but I have seen demonstrations of a simpler, less refined strategy, and they are very promising, both in terms of the hypothetical returns generated, and of their countervailing influences on the ups and downs of a traditional stocks and bonds portfolio.

⁵ As of this writing, the fund is invested in 53 different assets.

I have distributed to you a paper by the AQR fund managers⁶ that I strongly recommend for those interested in understanding the basics of managed futures strategies and the rationale for investors like us to employ them in our portfolios. It is a mere 6 ½ pages long and is written in understandable, nontechnical language. It describes the back testing results of the simple form strategy I mentioned above. It also summarizes the behavioral biases and imperfections that may be the underlying reasons that trends and reversals are found in many kinds of futures prices. These should be quite interesting for anyone interested in decision theory or behavioral economics.

Reasons for Adding this Position: Better Returns and Smaller Drawdowns in Lean Times

There are two possible reasons to add any new kind of investment to our portfolios: to decrease risk and/or to boost returns. Both of these reasons underlie my decision to add this managed futures investment.

Risk - Risk reduction is a diversification benefit, and it is an obvious rationale for adding most any type of alternative investment to one's portfolio. Diversification and volatility reduction may sound like abstract terms, lacking in ability to excite. But at best what they offer is that the investment should perform well when we need it the most. In other words, when conventional stocks and bonds go down, we would hope the alternative investment would go up.

The AQR paper backtests the simple form strategy from 1985 through 2009. They find that in each of the four worst 12 month periods for the S&P 500 during that 25 year period, the simple managed futures strategy would have produced positive returns, in amounts ranging from +8% up to +40%. Another point of evidence comes from an actual, as opposed to hypothetical, investment. There is a mutual fund offered by Rydex (RYMTX) that is based on a strategy very similar to the simple strategy in the AQR paper. Morningstar reports that it performed extremely well within the very worst period for the stock market during the recent financial crisis. Between the date of the all time high of the S&P 500 on October 9, 2007 and its recent low on March 9, 2009, the S&P 500 fell by 57%. During that same period the RYMTX fund rose by 18%.

Return - Aside from risk reduction, the other and possibly more compelling reason to add managed futures to our portfolios is simply to increase total returns. AQR personnel say their expectation – or at least their goal – for this strategy is to earn equity like returns with volatility only half to two thirds as high as equities. By “equity like” they mean 6% – 7% over T-Bill returns, which is what U.S. equities had earned historically (in the 10% range). But based on some indexes and back tested returns of managed futures strategies, combined with unexciting future prospects for developed market equities, I think their goals may be overly modest. Several providers, including Standard and Poors and Morningstar, publish indexes for simple managed futures strategies very similar to the simple strategy in AQR's paper⁷. These indexes show that even simple commodity trend following strategies have easily beaten US and developed market equity indexes, as well as

⁶ “Understanding Managed Futures”, by Brian Hurst, Yao Hua Choi and Lasse Pederson, AQR Capital Management. A pdf version of their paper is attached to the same email used to send this paper to you.

⁷ Morningstar's index applies only to commodity futures. The S&P DTI Index applies to all the asset classes we have been discussing.

the respective long only commodity indices for each of the past 5, 10 and 15 year periods. And AQR's back tested simple strategy applied to all four asset classes (commodities, currencies, stocks and bonds) would have returned 17.8% per year for the 25 year period 1985 – 2009, versus 10.5% for the S&P 500.

I see no reason to think managed futures strategies will produce lower or higher returns in the future than in the past. Either could occur but not for anything remotely like the reasons that equities or other conventional asset classes returns may change. Managed futures returns depend on the continued existence of trends or momentum⁸ in prices, which in turn depend on certain behavioral patterns of the market participants. True, these could change. But there would seem to be no systematic relationship between those kinds of changes and the degrees of economic success or failure our economies may experience in the coming years.

As I have written numerous times, I think the U.S. and other developed economies recoveries face strong headwinds in coming years due to consumer deleveraging and the future effects of massive government deficits. Equities prices, already having returned to normal P/E ratios, cannot expect to grow much faster than the economies in which they are based. As a result, I have been looking long and hard for other types of investments that might be able to do better. I have found a number of such promising alternatives and they have been incorporated into our portfolios, including:

- Emerging Markets Equities, to which I have recently notably increased our commitment
- High Yield Bonds, an opportunistic foray for which I have already declared success, taken profits and exited
- Opportunistic Fixed Income Funds, wherein the fund managers can go anywhere and do anything within the fixed income and convertible world in search of total return, including investing in different countries, credit qualities, durations and types of debt securities
- Commodity Futures, a long-only strategy focused on 19 commodities, passive with respect to the commodities index, but highly active with respect to the 95% collateral available to its unleveraged futures investments
- Merger Arbitrage, a long-short strategy focused on announced but as yet uncompleted corporate mergers and acquisitions
- International Real Estate, a mutual fund that buys securitized real estate worldwide, about 70% of which is in Asia and the Pacific Rim

Now, to this list I am adding Managed Futures.

⁸ Saying that trends exist in price paths is another way of saying there is momentum in prices, or that market participants under react to information so that it takes prices awhile to catch up with the new information. It is useful to keep in mind that “trends”, “momentum” and “under reaction” are all terms for describing the same thing.

Special Risks and Cautionary Factors for Managed Futures Strategies

Managed futures is not an absolute return strategy. There will almost certainly be time periods when it has negative returns. And these periods may well occur when our more conventional investments are doing well, which will be disappointing to investors. But please keep in mind that this in itself does not mean that the strategy is not working or that adding it was a mistake. I fully expect this to happen sometimes.

In particular, managed futures generally perform poorly when markets stay range-bound without trending, or when trends reverse very abruptly (too quickly for the methodology to react). On the plus side, the AQR fund will be investing in over 50 assets within four major asset classes, so it is unlikely these problems will affect everything at once.

In describing the strategy of riding trends it is easy to give the impression that the managers have an almost fool proof algorithm for getting on the right side of the trends. This is far from the truth, very far. AQR's methodology, like most all managed futures strategies, is a statistical methodology that seeks to be right more often than it is wrong. But it will be wrong very frequently. The idea is to play the percentages, not to design a near fool proof methodology. I don't know what percentage of the time a good managed futures strategy has to call the right direction of the trend to be successful, but I would venture to guess that something in the high fifties would be excellent. In other words, even you have a successful managed futures strategy, you will probably be wrong on the order of 40% of the time. It's kind of like baseball, where a team that wins 60% of its games is probably a first place team.

Finally, one more cautionary note, not about the new strategy, but about our own expectations concerning its value added. I am planning to allocate 7% of our portfolios (outside of cash reserves) to this new managed futures fund. This may seem like a lot of money, but it is still only about one fifteenth of our portfolios' values. So even if this works exactly as hoped, it will have a good but not a really dramatic effect on our overall portfolio performance.

Actually to me, 7% seems like a pretty large investment move. But I am a gradualist in such matters, especially when it comes to a completely new type of investment. My thinking is that if I still feel as positive about this strategy in six months or a year from now as I do now, I can very well afford it a larger allocation then. I would rather proceed this way than allocate a much larger amount at the outset, and then change my mind and have to decrease or eliminate it down the road.

Implementation: How and When to Add the New Strategy to Our Portfolios

Top Level Asset Allocation by Investor Type - Top level asset allocation at MAM is done by setting percentage targets for five top level investment categories, namely Equities, Real Estate, Commodity Futures, Alternative Investments and Fixed Income. Different clients at MAM have different risk reward profiles. Generally they are each assigned to one of seven or eight investor types based on their selected tradeoff between aggressiveness in seeking returns and safety in preserving capital. Each investor type is defined by a slate of percentage targets assigned to each of these top level categories.

Managed Futures will be considered part of our Alternative Investments category. I have decided to allocate 7% of assets (aside for cash reserves) to a managed futures strategy for all investor types. If I considered managed futures to be a relatively high risk investment

like equities, I would have assigned higher targets to our more aggressive investor types and lower targets to our more conservative types. If I thought of it as being a more conservative investment like bond funds, I would have done the opposite. But in fact, I believe the managed futures strategy we will be utilizing is just about half way in between the two. Thus, I see no compelling reason to allocate differing amounts to the different investor types.

Volatility Relative to Our Other Investments - AQR is targeting volatility of about 8% to 10% per year⁹ for the AQR Managed Futures Strategy Fund. The simple strategy used in AQR's paper was back tested over the past 25 years and came out with volatility equal to 9.3% per year. But the actual strategy being employed in the AQMIX fund is much more sophisticated in terms of risk control mechanisms, like equalizing volatility contributions across the four major asset classes and varying the sizes of long and short positions based on the strength of the trends indicators. (The simple strategy is strictly binary in that each position is either long or short.) So I would expect the fund's actual strategy to have lower volatility than the simple form strategy, or at least no higher volatility.

For comparison, here are the realized volatilities of some of our most widely held investments over the past 5 years:

Table 1 - Historical Volatilities of Common MAM Investments

| Investment | 5 Year Volatility |
|---|--------------------------|
| PIMCO Total Return (PTTRX) (our most widely held bond fund) | 4.3% |
| Arbitrage Fund (ARBNX) (sole previous component of AI category) | 4.5% |
| Our most widely held domestic equity mutual funds | 17% - 21% |
| PIMCO Commodity Real Return (PCRIX) (long only commodity futures) | 25.0% |

Displacements - So if AQMIX does achieve its targeted volatility, it would appear to fit pretty much right in between equities and bonds or the safer alternative investment we have owned to date. Consequently, to move seven percentage points of our targets into Alternative Investments, the assets I will displace to do so will be taken 50:50 out of equities and bonds. In other words, to increase your Alternative Investments target by 7%, I will decrease your targets for both Equities and Fixed Income by 3.5% each.

Risk Versus Safety Profiles - As a quick short hand way of characterizing the level of aggressiveness of the various investor types at MAM, I have routinely added up the targets for the three riskier asset classes, Equities, Real Estate and Commodity Futures, and

⁹ Volatility is simply the annualized standard deviation of returns.

compared this to the sum of the two safer classes, Alternative Investments and Fixed Income. By this reckoning, I could say for example that investor type 1 (Very Aggressive) had an 80:20 risk versus safety profile, versus a 59:41 profile for investor type 4 (Moderate). I still think this is a useful brief characterization of our risk profiles, but it will have to be computed a little more carefully now. Rather than count the whole Alternative Investments target as part of the safer number, I will henceforth count half of the managed futures target plus all of the arbitrage strategy with the safer investments, and half of the managed futures target with the riskier investments.

New MAM Asset Allocation Targets - With all this in mind, the table below shows the new MAM top level asset allocation targets for our most common seven investor types. (Please note that several clients have their own specialized targets that are not shown in this table.)

MAM Asset Allocation Targets - February 2010

Alternative Investments category includes a 7% allocation to Managed Futures Strategy for all investor types.

| Investor Type | Investor Type | EQ | RE | CF | AI | FI | % Risky* | % Safer* |
|-------------------|---------------|-------|------|------|-------|-------|----------|----------|
| Very Aggressive | 1 | 67.0% | 3.0% | 6.5% | 9.5% | 14.0% | 80.0% | 20.0% |
| Aggressive | 2 | 60.0% | 3.0% | 6.5% | 10.0% | 20.5% | 73.0% | 27.0% |
| Moderate Plus | 3 | 54.0% | 2.5% | 6.0% | 10.5% | 27.0% | 66.0% | 34.0% |
| Moderate | 4 | 47.5% | 2.5% | 5.5% | 11.0% | 33.5% | 59.0% | 41.0% |
| Conservative Plus | 5 | 40.5% | 2.0% | 5.0% | 11.0% | 41.5% | 51.0% | 49.0% |
| Conservative | 6 | 31.5% | 2.0% | 5.0% | 12.0% | 49.5% | 42.0% | 58.0% |
| Preservationist | 7 | 21.5% | 3.0% | 4.0% | 12.5% | 59.0% | 32.0% | 68.0% |

EQ = Equity, RE = Real Estate, CF = Commodity Futures, AI = Alternative Investments, FI = Fixed Income

* "% Risky" = EQ + RE + CF +(Managed Futures) / 2 "%Safer" = FI + AI - (Managed Futures) / 2

Implementation Timing - Some of the recent investment moves I have made have been implemented for all clients in one fairly expeditious effort, sometimes taking only a few days. By contrast, adding managed futures will be implemented over a much more extended time schedule. One reason is that determining exactly which investments to displace and within which particular accounts of a consolidated portfolio to do so are fairly complicated and client specific decisions. A second reason is that I don't feel the same kind of time urgency for making this move that I did for some others such as adding to emerging markets and selling out our high yield bonds and bank loans. As a result I will be implementing this managed futures addition as part of the next cycle of detailed portfolio reviews, which has already begun. A detailed portfolio review goes well beyond top level rebalancing and cash reserve replenishment. This is also when I refine all of our individual investment holdings (funds, stocks, ETF's) and recalibrate our asset allocations at more detailed levels, such as the percentages in small versus mid versus large cap stocks, and in different types of fixed income and currencies. It takes at least two months and likely more to complete a full cycle of detailed portfolio reviews for all clients.

Communications - If any of you are especially anxious to have the new managed futures strategy added to your portfolio, please let me know and I can probably move your review up in time. Alternatively, if you have reservations about the move, or would just like to know more about it, also please don't hesitate to get in touch with me. (I will be implementing the move in your portfolio if I do not hear any concerns.)

Concluding Thoughts

Managed futures will not be a great savior or gigantic money maker for our portfolios. But I think it is a fascinating investment strategy that is very, very different from anything else in which we have heretofore invested. The strategy does have the potential – but of course not the certainty – to both decrease our portfolio's volatilities and increase their returns. As I mentioned, I have been considering this approach for about six years now in hopes of some day finding an appropriate investment vehicle with which to employ it. The initial 7% allocation to it is modest, but we may well see this or other alternative strategies target holdings built up to heftier allocations in the coming years.

Sincerely,

Bob Marshalla
Your Financial Advisor