



Epsilon Theory

THREE-BODY ALPHA | BY RUSTY GUINN W/BILL ENSZER

Part 1: The Many Moods of Macro



I think the original version of this gag is from a *Far Side* comic in reference to Irish setters, although I've omitted it out of respect for [Gary Larson's wishes](#). Truth be told, I always felt that Old English Sheepdogs would have had a better case for "creature who looks more or less the same regardless of circumstance" than setters. I guess this is one of those things that is infinitely transferable to whatever kind of dog you had growing up.

Unless your childhood dog was a global macro portfolio manager, however, I suspect the rather monotonic flavor of their returns has puzzled you from time to time. For all its inputs, for all its data packaged together from far-flung corners of the globe, all synthesized into sensible and well-researched models, the typical macro fund's positioning and success is heavily reliant on a small number of influential drivers and environments.

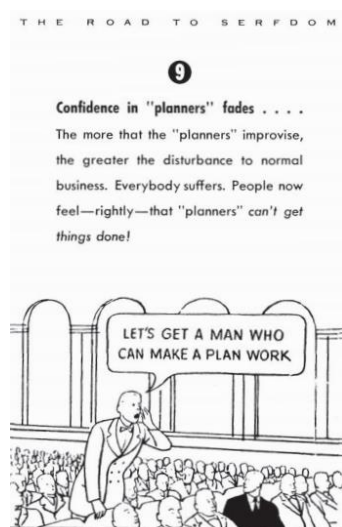
On the surface that's not necessarily a bad thing, unless you're paying a ton for it, which you probably are, even in 2018. After all, repeatability and persistent premia are not bugs, but features that we seek out from systematic investing. But for investors in systematic tactical strategies and global macro hedge funds, the expectation of persistent novel sources of return should be scrutinized. In a Three-Body Market, they should be doubted.

A horse having a wolf as a powerful and dangerous enemy lived in constant fear of his life. Being driven to desperation, it occurred to him to seek a strong ally. Whereupon he approached a man, and offered an alliance, pointing out that the wolf was likewise an enemy of the man. The man accepted the partnership at once and offered to kill the wolf immediately, if his new partner would only co-operate by placing his greater speed at the man's disposal. The horse was willing, and allowed the man to place bridle and saddle upon him. The man mounted, hunted down the wolf, and killed him. The horse, joyful and relieved, thanked the man, and said: 'Now that our enemy is dead, remove your bridle and saddle and restore my freedom.' Whereupon the man laughed loudly and replied, 'Never!' and applied the spurs with a will.



— Isaac Asimov, *Foundation* (1951)

At their core, most macro models are central banking models and macro managers are carry investors. They willingly tied themselves to success in predicting bank actions, and in so doing had a wonderful stretch of good returns and low correlations with stocks. Now that predicting bank action will increasingly require short carry positioning, and now that betting on uncoordinated action has gotten tougher, they're feeling the spurs. This is your choice, too: buck the rider or feel the spurs.



The impulse to find a “a man who can make a plan work”, from F.A. Hayek’s brilliant *Road to Serfdom* cartoons, is not just a political one, but infects the way we make decisions as investors. We make portfolio plans ourselves, with our committees or with our advisors, and they...rarely turn out exactly like we wanted.

We never have the best possible portfolio we could have had. There is no decision structure that won't yield questions of the, “Well, why weren't we 100% in U.S. growth stocks the last three years?” ilk from our clients. More often, we made some real mistakes. We misread the risk environment and weren't fully invested for our clients. Knowing we shouldn't, we gave up on a value strategy in a 7-year drawdown right before sentiment turned. We sold bonds ahead of what we thought were inevitable rate hikes and were wrong for five years.

We know we need to fix these kinds of errors. Too often our solution is to find the team with a model that understands “how all this madness fits together” and can exploit it for us. That's the allure of systematic macro and tactical asset allocation. It's well-intended. It's also a path paved with peril.

This is Part 1 of the multi-part *Three-Body Alpha* series, introduced in the recent [Investing with Icarus](#) note. The Series seeks to explore how the increasing transformation of fundamental and economic data into abstractions may influence strategies for investing – and how it should influence investors accessing them.

	Economic Models	Behavioral Models	Idiosyncratic Models
Systematic	<i>Security Screening</i> <i>Econometric GTAA</i>	Trend-Following Momentum Value Factor Investing Mean-Reversion Statistical Arbitrage	High Frequency
Discretionary	DCF / DDM / Price Target Quality-Based Credit Work Growth Equity Relative Value Asset Value	Sentiment Value + Catalyst Discretionary Macro Other Trading Strategies	Activism Distress

After Ben wrote [The Three-Body Problem](#), and then again with [The Icarus Moment](#), I suspect I reacted like many other readers. I didn't have to predict whether I thought asset prices were increasingly driven by abstractions or higher degree derivatives of economic and fundamental data, as Ben argued. I was observing it. But between those observations and the related belief that most alpha-oriented strategies have been forced into deeper levels of the [Keynesian Newspaper Beauty Contest](#) – that we are increasingly in the business of predicting what others are predicting others are predicting rather than the impact of changes in real economic facts – I have the same questions: How should this impact our strategies? Our portfolios? The questions we ask our advisers and fund managers?

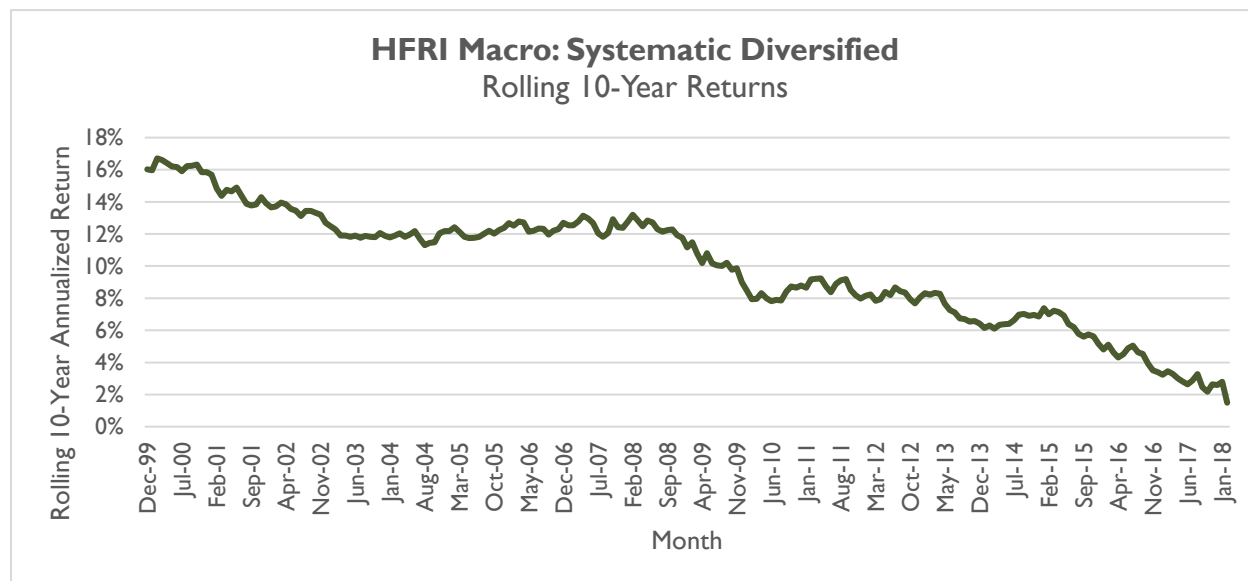
These questions only matter if this whole state of affairs persists, of course. If there's a hypothetical criticism you could level at the framework Ben and I are working from, it is that the Narrative-driven market isn't really a thing, that it's just a label we are throwing on a period of temporary loopiness created by central bank-driven hyperliquidity. A period that appears to be ending. If you think this is the case, then we're the guys in burlap sacks on the street corner shouting, "This Time It's Different" right before things go back to normal. I'm empathetic to the view. I mean, I think the view is wrong, but I've heard that people are comforted when you tell them you're empathetic to their view.

I think it's wrong because we aren't just observing this in financial markets. We are observing polarization and quantization – rounding words and numbers to their nearest analog – in nearly every human social sphere. Our media-connected Panopticon converts every uttered word into a loaded ideological message, in which every action is a symbol in service to a Narrative. Yes, central bankers were the original missionaries in our little history, but CEOs, financial media, crypto-experts, senators, regulators, traders and other power brokers are all wise to the game now. So, if you want to tell me we will see a return to a market in which the transmission of economic data and fundamental

characteristics of issuers manifests in asset prices over some meaningfully investable period of time, fine. But you'll have to tell me why you think that's going to happen in politics, culture and media, too.

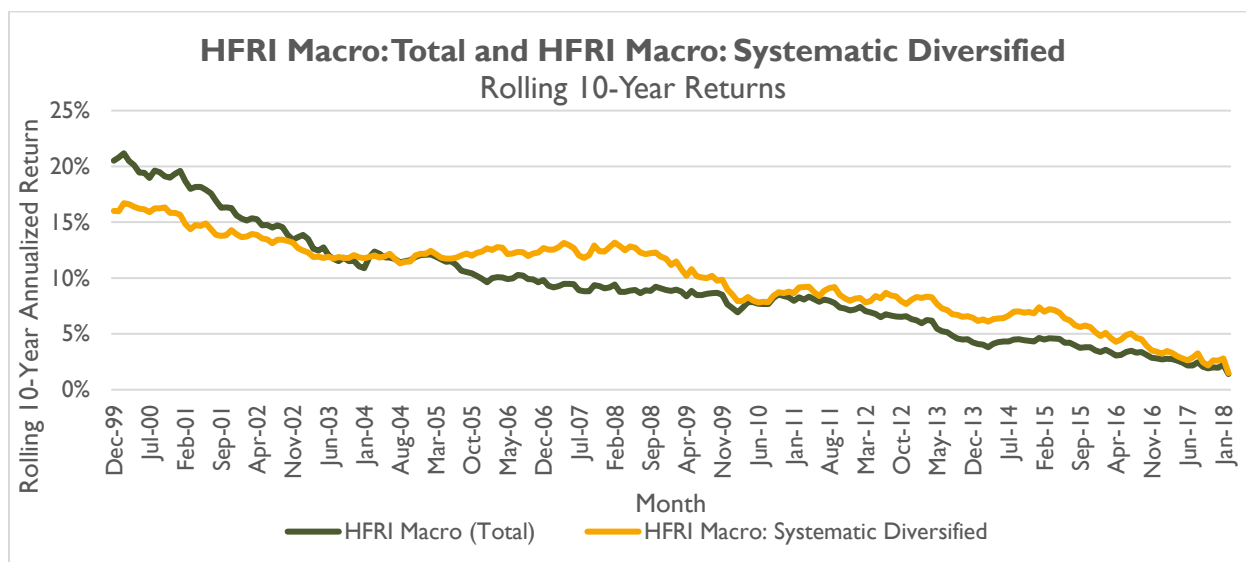
The painful Catch-22 for the investment advice industry is that people expect times of uncertainty to be the opportunity for advisers to *prove themselves*. When I talk to financial advisers and RIAs in times of perceived dislocation in asset prices, they want to know whether they ought to transition some of their stock portfolio to hedge funds. They want to know if now is the time to allocate to long/short equity managers. They want to find someone who can steer exposure to take advantage of dispersion when the dislocation corrects. When geopolitical volatility doesn't manifest in market risk, the conversation is similar. Investors want a macro strategist with a model that answers *how it all fits together*. Maybe it's as simple as adding a tactical asset allocation overlay through one of the big turnkey platforms, or maybe it's hiring a systematic global macro hedge fund. There's finally dispersion again, and the beta rally is over — now go be tactical and find alpha!

Want to know why Ben's notes [Tell My Horse](#) and [Three-Body Problem](#) each yielded more emails from fund managers, CIOs, pension executives and investment professionals than many notes combined? Because they don't know exactly what to tell their clients who are looking for macro guidance. Because not only is this environment not turning out to be a goldilocks regime for tactical, cross-asset, alpha-seeking managers, it's becoming an environment in which even the things that used to work aren't working for them. At all. Nowhere is that truer than in strategies sitting at the confluence of what in our framework we are calling Systematic strategies operating Economic models. Don't believe me? Here's the very long-cycle trend, seen through the lens of the HFRI Macro: Systematic Diversified Index.



Source: eVestment April 2018. An investor cannot invest directly in an index. For illustrative purposes only.

The systematic universe has a lot of trend-following funds. Many of those have performed quite poorly. But that isn't all that's happening here. Even the broader Global Macro category, represented here by the HFRI Macro (Total) Index, looks similar. We could similarly split the systematic category into those focused only on trend-following and those that are not, and it would tell the same story.



Source: eVestment April 2018. An investor cannot invest directly in an index. For illustrative purposes only.

What do we mean by “Econometric GTAA”?

The investment industry **loves to obfuscate**, and terminology can be a bear. Let's cut through it.

In Hedge Fund Land, “Macro” — represented in the second chart above — is a term of art. Jargon. It refers to a universe of hedge funds, usually self-labeled, that pursue strategies that *mostly* allocate across and between different broadly defined assets. The term “Systematic Macro” simply refers to those which do so on a *mostly* systematic basis. By systematic, I mean that the trades are typically generated based on a system rather than determined by a human. That means different things for different funds, and many will have individual sleeves of the portfolio or elements of the portfolio's construction that still come under human scrutiny. But in general, these funds trade based on generalized ideas and principles memorialized in code.

Depending on who you are talking to, you will also hear strategists, fund managers or consultants talk about “GTAA”, or Global Tactical Asset Allocation strategies. When a fund manager calls a strategy that allocates across assets GTAA instead of Macro, he usually means that he is willing to sell it to you for a lower price, often means that his trades will be confined to a defined, larger set of simple long and short expressions on broad asset classes, and sometimes means that he will have a *general* bias toward being long financial markets exposure. This is part of the universe I'm writing about here.

There's a third category of strategies which are not precisely a sub-set of Systematic Macro, but at least occupy a big, overlapping part of the Venn diagram: Managed Futures and CTAs. This, again, is where terminology gets confusing. Managed Futures and CTAs are technically a *structural* category, by which I mean that they aren't so much defined by what they *do* as by what they *are*. Because futures contracts were originally an instrument devised to trade commodities more efficiently, this industry and its structures formed around strategies for trading futures contracts on those commodities — which makes sense, since CTA stands for “Commodity Trading Advisor.” Over time, as extraordinarily liquid futures contracts became available in equities and interest rate markets, the CTA structures were able to accommodate strategies that looked almost exactly like what we'd see

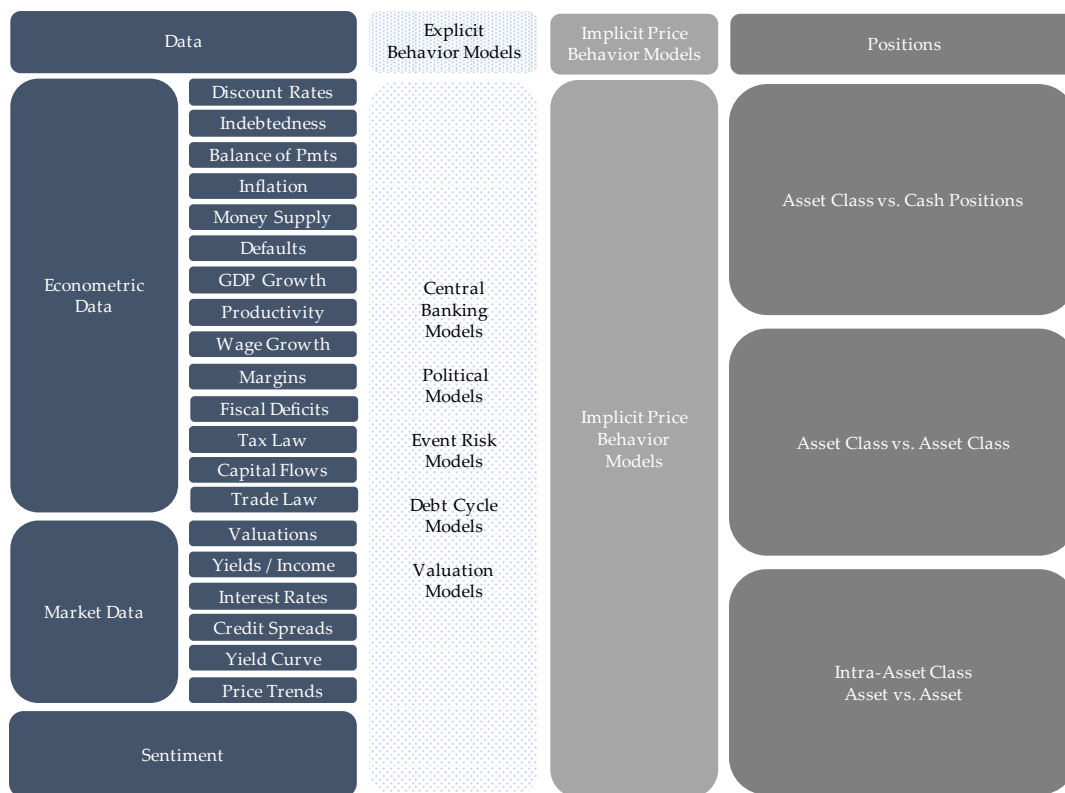
in a global macro hedge fund. But, as I noted in my quip above, this part of the universe tends to trade more often based on price trends, rather than what's going on in the economy or in companies and other issuers.

So, we have three heavily overlapping Venn diagrams — Systematic Macro, GTAA and Managed Futures. But this piece is about strategies I'm labeling as Econometric GTAA. What do I mean? I mean strategies which trade long and short across a broad range of markets based on computer models driven by (and sometimes predicting the trajectory of and rates of change in) inflation, interest rates, asset flows, economic growth, corporate margins and earnings more broadly, tax rates, trade policy, balance of payments, and trade deficits, etc. These strategies will find their way into your portfolios in many ways. If you buy a Global Macro hedge fund, you will probably get a lot of this. If you hire a Managed Futures fund, you may get some of this, although as I mentioned, it is more likely to be driven by trend-following. If you buy a Multi-Strategy hedge fund, you will probably get a lot of this. But this isn't just hedge funds. If you buy a "rotation" or "tactical" strategy from an ETF strategist or Tactical Asset Management Plan (TAMP), you will probably get a lot of this. If you hire a financial adviser from an institution with a home office that recommends asset allocation models, you are probably getting some muted flavors of this. So what do these strategies look like?

What Econometric GTAA Models Look Like

When you hire a "tactical" advisor or portfolio manager, while there is a huge amount of surface-level diversity, what you're usually getting is some subset of the below:

ILLUSTRATION OF TYPICAL TACTICAL ASSET ALLOCATION FRAMEWORK



Source: *Epsilon Theory* April 2018. For illustrative purposes only.

The basic framework here takes in some combination of what I'm calling Econometric Data, Market Data and Sentiment. The mix may differ dramatically. In the case of Managed Futures strategies, many ETF strategists and "Tactical Allocation" funds, and others that call themselves Systematic Macro, models may skew entirely toward Market Data. They may even emphasize price movements above just about every other kind of input. This piece isn't about those funds, and it isn't about those strategies. It's a big topic that deserves its own note, because *most* of the off-the-shelf model portfolios-in-a-box, ETF-based strategies, sector-rotation strategies and tactical allocation funds rely almost entirely on models driven by Market Data alone, usually simple valuation and momentum models.

But what we're focused on is that top half — the Econometric Data. The approach that managers and strategists will take to incorporate these data will differ. In some cases, strategies will impute a direct transmission engine between econometric data and (implied) expected asset prices, and their desired position. For example, a strategy may be something as simple as rank-ordering countries by their short-term interest rates, buying the ones with higher rates and shorting the ones with lower rates. There are all sorts of *implicit* views this expresses on investor asset pricing behavior and risk, but the explicit mechanism for establishing positions connects relative interest rates to relative asset price returns over some period of time. This is what the illustration refers to as Implicit Price Behavior models — "Certain values of variable X will more often than not result in changes in the prices of asset price Y."

In other cases, one or more (usually more) bits of data will be incorporated with economic logic into an interim model. That interim model will typically represent a more explicit simulation of the behavior of another actor or actor(s). For example, rather than estimate a simple relationship between, say, changes in consensus inflation expectations and whether inflation-linked bonds will outperform nominal bonds, many Econometric GTAA strategies will take in GDP growth, earnings growth, balance of payments, wage growth, producer price momentum, corporate margin and money supply data to predict the pressures on central banks to make changes in interest rate policy. That output would then influence views and positioning on a range of assets.

As with the bulk of tactical asset allocation strategies, ETF models, etc. mentioned earlier, the influence of these interim models or even many of the direct transmission models of Econometric Data to positions is often presented in context of valuation of the underlying assets, and momentum of the price of the underlying asset and/or the model's signal itself. In other words, a fund may predict the pressure on a central bank to act, but it may be the momentum or change in that variable which produces a tradable signal. Alternatively, a trade may be conditioned on some valuation or momentum state, or even by the state of another interim model (i.e. "We trade when we have confirmation between our geopolitical framework and recent price action.").

The types of positions these models establish will differ as well. For most strategies — especially those that fancy the GTAA moniker — the views tend to be long/short, and usually asset class neutral. For example, a model might pair a 5% long or overweight position in US stocks with a 5% short or underweight position in, say, German stocks. For others, the views might compare assets with cash. In other words, the models decide whether to have market exposure *at all*. This question of "directionality" is a big one. It's one that tends to exaggerate differentness among practitioners of

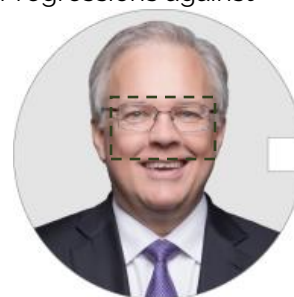
these strategies and pigeon-hole the emphasis of more risk-focused managers into a smaller number of relative value trades between assets.

But What is It, Really?

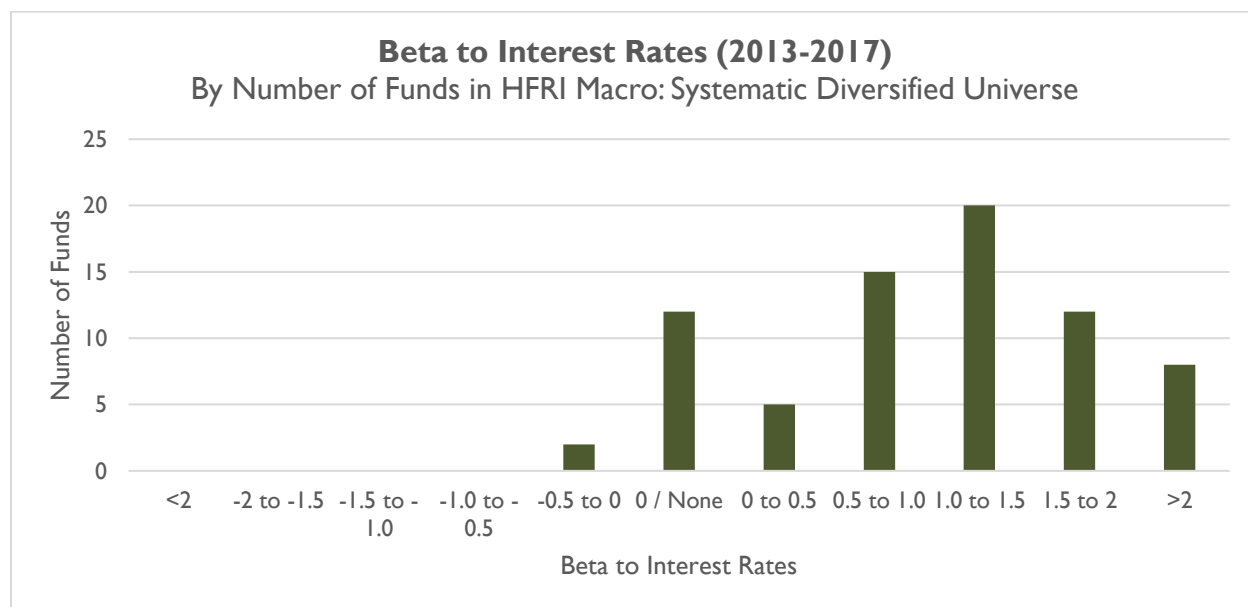
So with all these inputs, with all this diversity, we have our pick of a lot of interesting multi-asset and macro strategists with a lot of interesting different models, right?

Meh, not so much.

We don't claim to have some secret sauce for analyzing drivers of fund performance. Most approaches are pretty well-trod ground at this point, although I was tempted to measure **facial width-to-height ratios** just for fun. But no, we're simple — boring multi-factor regressions against some basic style and market factors. Fortunately, as is often the case, simplicity tells most of the story. Of the 74 funds in the HFRI Systematic Macro universe, 60 have positive, statistically significant betas to interest rates. Around 40 have betas higher than 1.0. These are betas in a multi-factor context that includes a range of market and traditional style factors. To be fair, many of these funds are implemented through futures or with market neutral positioning that allows them to earn cash returns, but this is a small portion of this effect. In the end, you are roughly three times more likely to run into a Systematic Macro fund with returns that look like a levered bet on interest rate-sensitive instruments than one that neutralized (read: *hedged*) the aggregate systematic influence of rates on its risk profile over time.



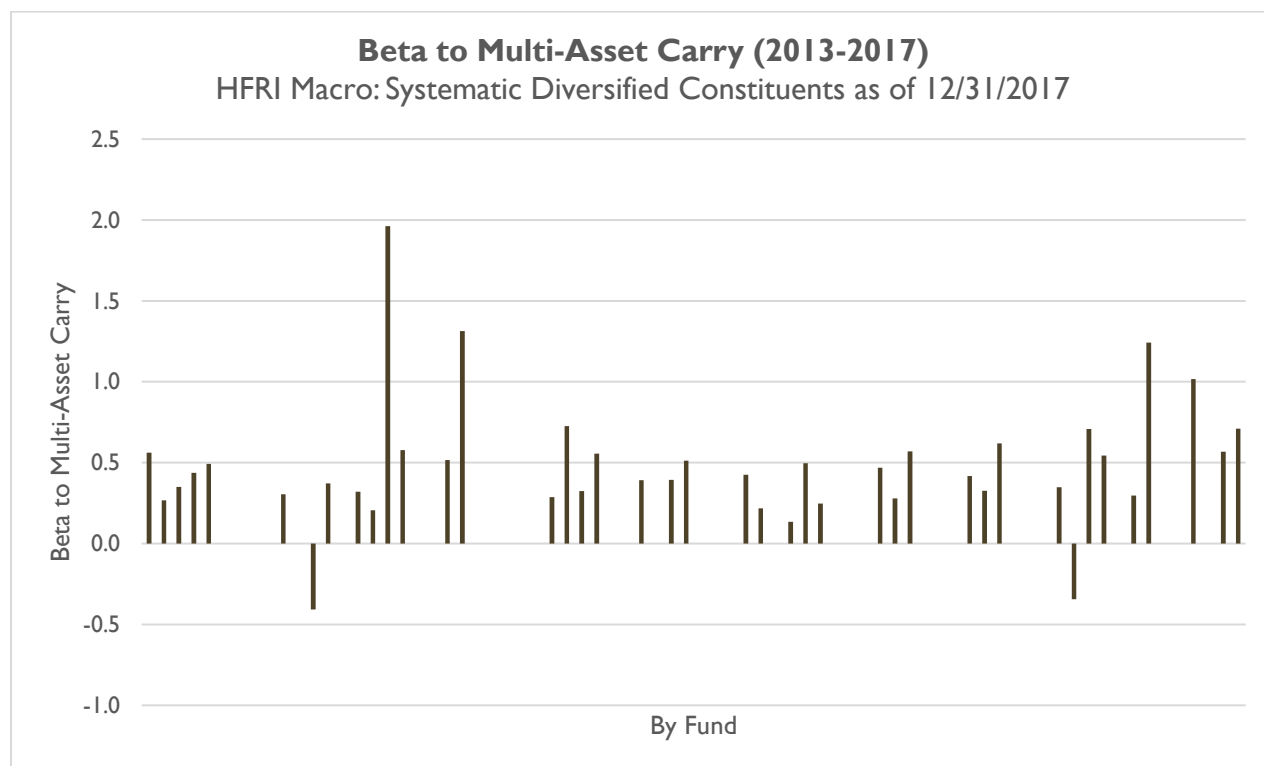
Our new risk management model



Source: *Epsilon Theory*, HFR, eVestment April 2018. An investor cannot invest directly in an index. For illustrative purposes only.

I don't think this is an artifact or false positive from the data. Anecdotally, as I'll argue, I think that many systematic macro funds really do execute strategies that are structurally biased toward being long bonds. But they also have a related bias. They like to own things where you collect a payment from someone else to own it. That someone else may be an issuer, a government or a hedger. Across

macro funds, GTAA strategies and model portfolios, the only strategy that is as common as trend-following and a bond bias — systematic ones in particular — is buying higher yielding assets and selling lower yielding assets. We call these “carry trades”. Below are the significant betas (above and beyond the relationship to bonds) of each of the 74 funds to our measure of multi-asset carry trading. Most are positive, only a couple are negative, and the rest are largely positive but not significant after accounting for the existing carry component in their interest rate exposure.

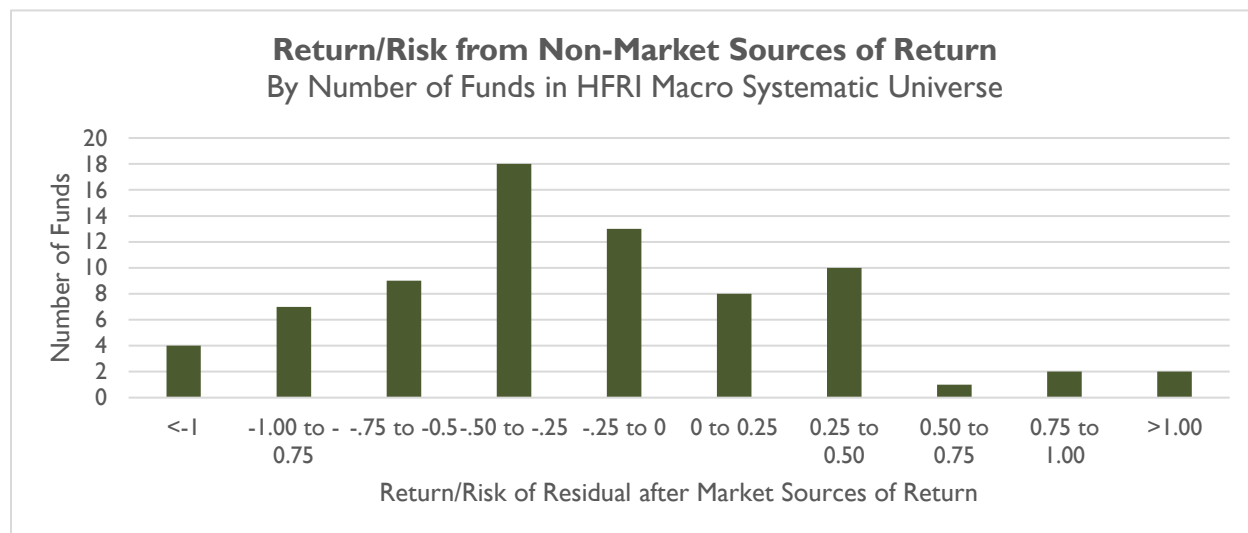


Source: *Epsilon Theory*, HFR, eVestment April 2018. An investor cannot invest directly in an index. For illustrative purposes only.

Systematic Macro and Econometric GTAA funds have other systematic exposures as well, including a general bias toward short exposure in commodities, and a long bias toward equities, and these aren't just present in the trend funds that have had those exposures because they have worked. They are common throughout.

If you talked about this with your tactical guy/gal or macro strategist, I know what he's going to tell you, because it's what they tell me, too. "There may be some of this, but we're not *directional*. We may be long, we may be short, and we have a lot of other trades and signals." I think you'll find that this is sometimes completely true. For example, Bridgewater's Pure Alpha strategy is consistently neutral to most market factors, although if you looked deeper into carry trades, you'd find a pretty persistent positioning in favor of higher yielding currencies. But generally speaking, your manager is telling you a half truth — literally. Across this universe, using static exposure to the most basic of market factors (stocks, bonds, commodities and currencies), you can explain around *half* of the variability in returns. That's not the problem, except that you're paying them 1.5-and-20 for something you can and should get much cheaper. **The problem is that after you take out the 50% you can explain with market factors, the hand-waving, black box, smoke-and-mirrors half they're trying to sell you as their edge is a tire fire.**

I mean, gods, look at this mess. Over the last five years, you would have gotten a positive Sharpe Ratio on whatever these guys did that wasn't static long exposure to financial markets from only 23 of the 74 funds. Believe your model-driven macro guy when he tells you he isn't *only* directionally long rates, carry and trend-following. But be skeptical when he tells you that you ought to have a positive return expectation on whatever the other stuff he's doing is.



Source: *Epsilon Theory*, HFR, eVestment April 2018. An investor cannot invest directly in an index. For illustrative purposes only.

The Many Moods of Macro

So how should we feel about the non-tire fire half of these returns — by which I mean the rates and carry half?

As I've alluded to above, the first mood of macro has always been betting on the behavior of central banks. There are a variety of reasons for that, but the first is that Systematic Macro, like other hedge fund strategies — and systematic ones in particular — is drawn to trades, strategies and markets with lower natural volatility. That means, generally, that positioning driven by the models will emphasize either directional exposure to lower volatility asset classes like bonds, or relative value trades (i.e. going long one asset and short a similar one). Importantly, it also means that the models will favor what they perceive as loosely correlated trades or positions. If you have better-than-random confidence in what central banks are likely to do, you have a full range of options to implement those views with characteristics that are attractive to a manager seeking to sell itself as limiting downside with significant uncorrelated upside. The other reason that funds were so fond of strategies reliant on their central bank behavioral models, of course, is that the models themselves were historically pretty effective.

But there's another, more important reason for the attachment to central bank-driven econometric models. While most trades with significant upside potential and convexity require you to pay a premium — or be “short carry” — during the bond bull run of the last 30 years, a macro manager with a decent prediction model for the behaviors of central bank actions could put on trades with convex characteristics that paid him a positive carry over almost all of this three-decade span. For example, a prediction of a future rate cut would not only get the benefit of the signal but would also receive the

term premium in an upward sloping rates curve, a premium that can be significant even in the front end of the curve. Not only that, because central banks in different countries pursued frequently divergent policies with explicitly different inputs and aims, that manager could put on multiple such trades. And what's more, these positions were uncorrelated to most portfolios' primary sources of risk — we were living in a golden age!

This preference for long carry positioning is itself, I think, the second constant mood of macro. While it has historically manifested in part as a willingness to carry a directionally long bias in bonds, it also manifests in a preference for anything that pays you more to own it than something else. In Systematic Macro funds, you will see this in models which — from a variety of econometric inputs — ended up with a consistent preference for higher carry currencies, especially certain emerging markets currencies. The underlying model mechanics might differ. For example, the “emerging markets balance sheet quality” thinkpiece was a staple of the mid-2000s. The story went that the higher yields you earned for owning — I don't know, Turkish lira — were compensation for perceived risk, but that the econometric support for fiscal stability and quality meant that the *real* risk of permanent capital loss was far lower. There are a hundred models with rationale like this that all lead to a pronounced bias toward carry.

The third ubiquitous mood of macro is pro-trend, and in particular, medium-to-long-term trend following. I've noted that much of the Systematic Macro universe overlaps with Managed Futures and CTAs that have made trend-following their bread and butter, but even among Econometric GTAA strategies, it is quite common to use trends and momentum to drive positions or to condition other models. It is, perhaps, even more common to measure trends in the econometric variables as strategies or factors of their own. Systematic models will also be driven toward pro-momentum stances by their risk management techniques. Because positive returning assets are *generally* lower volatility assets, things that have done well will tend to score well when the portfolios are being built, even if there is no explicit model saying, “Buy stuff that's going up!” Beyond that, because many of these funds added implicit or explicit stop-loss logic in 2009, even among funds I would qualitatively (and subjectively) describe as following Econometric GTAA strategies, you can frequently explain much of the variation in returns with price momentum across asset classes of various horizons.

All of this is, incidentally, also why so many of your discretionary macro managers have spent the last two decades trotting out their Eurodollar guys to meet with you. They're the guys who got paid to bet on central bank actions with diversifying, pro-momentum, carry-paying trades.

Systematic Macro in Three-Body Markets

Now, I don't have much to say about whether I think that carry trades and momentum trades will work — or at least I don't have much to say in this note. Suffice it to say that there are good behavioral and empirical reasons to think that they are persistent premia that compensate investors for bearing a certain type of risk, and also good reasons to think that may manifest somewhat differently in markets driven by Narrative abstractions. These are topics for another note.

But I do think it is clear that Econometric GTAA strategies have struggled mightily to adapt to a Narrative-driven market with everything else they are doing. When I have met with strategists and macro funds over the last few years, their language has been static. They walk me through the

economic nonsense of negative interest rates and the upside asymmetry created by the zero barrier. They describe how relative growth rates, debt levels, deficits and trade balances cannot possibly support the relative yields of Treasuries and Bunds. They present compelling cases for curve trades between European markets that should converge given influences on ECB asset purchases, or for relative outperformance of this equity market over that because of the extension of corporate margins beyond some historical threshold for some historically long period of time. In other words, the Explicit Behavior models from the illustrated earlier in this note are running through the old motions on what central banks, asset owners and governments are going to do, and none of them are working.

It's not as if managers and strategists haven't *tried* to adapt to a world in which these trade drivers are subsumed into central bank communications strategy and the utilization of markets by political figures. But when the models driving your trading are built to understand the cost and transmission mechanisms of capital, and your asset prices are driven by how investors think other investors are responding to a stronger adverb in front of a *maybe* hawkish adjective, it's got to be more than just adapting and updating your models. It's recognizing that over an expanded time horizon, asset prices are being driven by a wholly separate set of variables.

What worries me more than anything, however, is that the *ability* of GTAA and macro strategies to access the *moods* that may still work (mostly models that end up looking like carry trades) may be limited by their construction and their design in the emerging environment. As macro and GTAA strategists adapt to rising interest rates and inflation, I think you're going to see some of their models under strain. They will be under strain because their central bank behavior models will be shouting "short rates", but their DNA, their risk management framework, and maybe even explicit pro-carry models — will be screaming "God, that short looks expensive. Are you sure?" This dependency — implied already in the assessment of sensitivity to bond markets — is real. Since 2000, the average Global Macro hedge fund has generated roughly 2.4x its average return in months where the discount rate was reduced, with almost no advantage during periods with a rising discount rate. I think we may be entering an environment in which the only things that have really worked for these funds get lost in the wash. In their place, I think investors can expect to get weaker, lower Sharpe strategies based on Market Data-driven positioning. A lot of momentum and value, and not much novel insight — in many cases, a very expensive balanced market portfolio with a value overlay.

What do I do if I'm an allocator?

- I don't put all my trust in a macro strategist or tactical manager's econometric models to 'figure this all out'.
- I probably own fewer of these funds and have less of my portfolio invested in them in the aggregate.
- I ask for a manager's rates and FX attribution. If it's positive for most of the 2000s and starts to sour and turn over in, say, 2013-2014 and hasn't recovered, I take the plastic binding rings out and file the pitchbook away in that special Iron Mountain filing cabinet in the print room. You know, the one with the lock on it that the guy comes for every couple weeks?

- I challenge my macro PMs to explain how their models might approach rates and FX trading differently when rates are rising and if central bank policy remains largely coordinated. If they say, "We're not directional and have always been agnostic on long or short positions, so it wouldn't be any different," I do my most exaggerated eye roll, put my chin on my fist, bat my eyelashes and give 'em my best ca. 1991 Glamour-Shots-at-the-mall smile until they tell the truth.
- I actively seek out managers who are incorporating and *increasing* the role of sentiment analysis, investor asset flows, market structure and Narrative, and reducing the role of econometric models, whether explicitly or through a systematic process for rotating capital between models (or turning off models whose alpha has evaporated).
- I actively seek out managers who have actually figured out multiple robust models for trading commodities effectively *other than* trend-following models.
- I continue to invest with managers accessing Systematic Macro's traditional *moods*, but I'm only willing to pay what those replicable strategies are worth.
- I look for managers who act boldly but hold their views loosely — in a word, humility.

The last goes for you and me, too. We must be humble about our ability to make good predictions about asset prices and returns. In a Three-Body Market, we should be even more humble than usual. But blindly handing over the reins of our asset allocation decisions to impressive people who claim to have developed the one model that will unravel this market's mysteries is not an act of humility. It's the very same act of expedience that caused so many of these managers to saddle themselves and their strategies to central banks, and it is the reason they're feeling the spurs today. Buck it — or feel the spurs yourself.

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HFR I Macro (Total) Index is an index that tracks the performance of a range of hedge funds as aggregated and categorized by HFR. Performance of the underlying funds is reported by managers with \$50 million under management that have been actively trading for at least 12 months, which report performance in USD, which are available in a fund structure, which are open to new investment and which report monthly returns. All such returns are constituted in the index on a net-of-fees basis. An investor cannot invest directly in this index.

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