

Fat-Tail Exploitation Theory (FET)



*There is a tide in the affairs of men,
Which, taken at the flood, leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows and in miseries.
On such a full sea are we now afloat,
And we must take the current when it serves
Or lose our ventures.
~Shakespeare*

We previously talked about the structural power law embedded in the distribution of returns; the [law of 90/10](#) and how, as Ken Grant said “... you need the 90 to get the 10.”

Attribution of collective return, 1989-2015

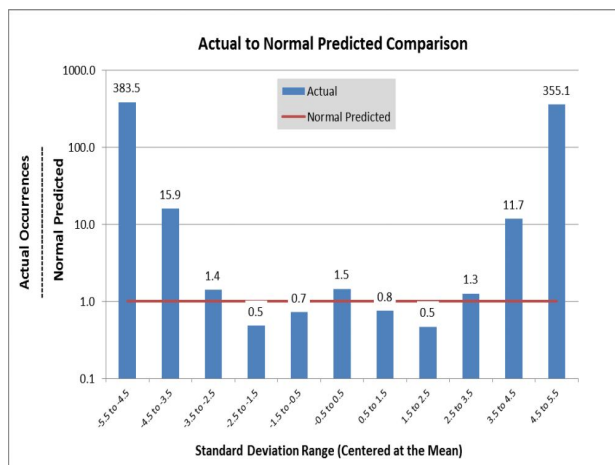
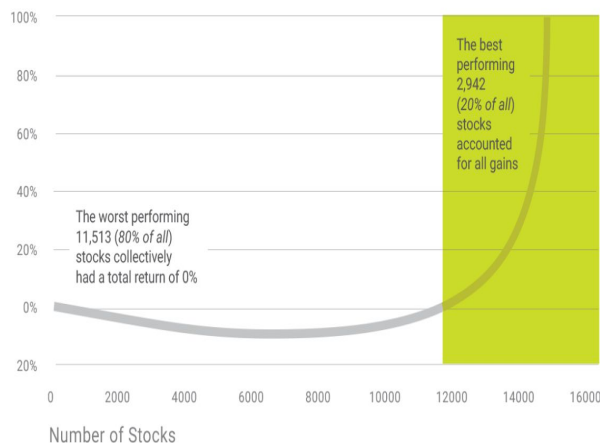
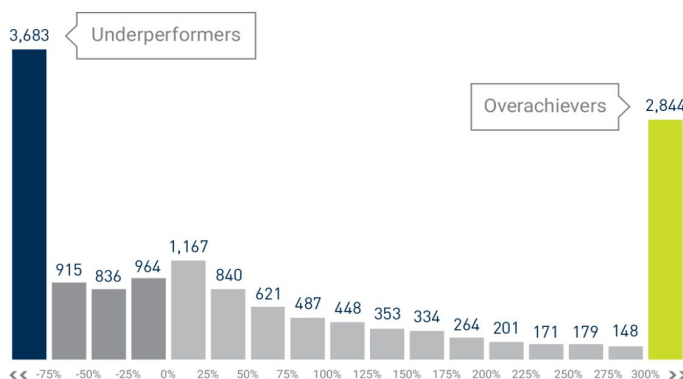


Figure 2: Plot of the number of times certain return events occurred versus how often they were predicted to occur using the Normal assumption.



Total lifetime returns individual U.S. stocks, 1989-2015

(Charts showing Power Law Distribution)

Really understanding this fundamental truth should lead you to ask the question: *How can I maximize that 10%?*

[Bruce Kovner](#) (a Market Wizard) said, "My experience with novice traders is that they trade three to five times too big. They are taking 5 to 10 percent risks on a trade when they should be taking 1 to 2 percent risks."

This is ABSOLUTELY true... Risking way too much or not even understanding risk at all, is the crowded road to ruin that most traders travel down.

As you know, our average risk on a trade is 75bps. It may not seem like a lot, but we get leverage through utilizing inflection points for entries and by pyramiding onto winning trades. So though our initial risk may be less than 1%, the notional size of the trade in relation to our equity can in fact be fairly large.

If you're relatively new to the game, then staying under 1% risk on any trade and under 5% total risk on any correlated investment is a very very good rule to live by. Negative compounding is a bitch and the larger your loss, the larger your profit needs to be just to get back to breakeven.

But, like the wise Dalai Lama once said, "know the rules well, so you can break them effectively". This rule too can and should sometimes be broken.

And to understand why, let's turn to Robert L. Bacon who wrote a book in 1954 called, [*The Secrets of Professional Turf Betting*](#).

I don't want to be like Pittsburgh Phil and win a million dollars at the races. I'd just like to grind out \$25 a day for myself without any risk!

How many times have you heard something like that from turf fans who were trying to be "conservative" at racing? ... Oh Brother! You can add this "grind" idea to the long list of other unsound notions held by the public play.... One sure thing that a smart player engraves deeply into his skull, is the fact that you MUST speculate at the races. You CAN'T grind!

The player at the races can't grind or chisel because [that girl] is taken. The racetrack has all grind and chisel privileges! The mutuel take and the breakage add up to a percentage that continually grinds and chisels the betting money... The grind privileges are spoken for and taken, so the professional bettor must speculate. The mutuel grinding only goes one way - against the bettor. But any percentage can be overcome by enough winners at fat enough prices!

Fortune favors the speculator over the grinder because of the plain old arithmetical percentages. The speculator has a percentage chance to win. The grinder has no chance. To beat the percentage of the mutuels, the player must ALWAYS have an overlay. He must always have an extra percentage in his favor, to counteract the "take" percentage. Forget about this idea of "grinding out a day's pay." If you want to make a day's pay at the races, get a job watering horses, or pitching manure into trucks. But never try to grind it out of the mutuels.

You see, the days of near riskless arbitrage are over. That ship sailed a long time ago. Wall Street and high-frequency-traders are the racetrack owners or the house, if you will. They have the giant infrastructure, the information flow, and the size to exploit tiny inefficiencies millions of times over and make their pay. They own that market.

Retail investors don't have any of these advantages. That's fine. We don't need them.

We are playing a different game that is not based on tiny arbitrage and dependent on giant infrastructure or unique information flow. We are playing the game that exploits 90/10.

The 90/10 game consist of the following:

- We scour the globe for large potential dislocations (giant mispricings in the market)
- We structure our trades to be asymmetric; always playing defense and cutting off left-tail risk
- We focus on survival through discipline and extreme patience; waiting for trades to come to us (never overtrading)
- And when the stars align we go for the jugular and bet big (with risk control)

Now you may be thinking, “Bet big? I thought risk control is paramount?” Yes, risk control is absolutely paramount. But the two aren’t mutually exclusive — at least not in the sense that we mean it.

Here’s the thing. We know that 90% or more of our profits will come from just 10% or fewer of the trades we enter, every year.

But are all these trades of equal value? As in, do we have the same conviction level on all of the trades we enter?

Nope.

Most of the trades we take are just in the “good enough” category. Some of them will surprise and there’ll be an occasional big winner (which is why we put them on, this year it was soymeal). But most of them will quickly stop out for a small loss. All in all, they mostly equate to a lot of P&L grinding.

But, like Bacon said, why the hell would you want to grind?!

You don’t. We certainly don’t. We’re not in this game to squeak out just a little alpha over the indexes. That wouldn’t be worth our time. I’m not going to put in 80hr weeks to add a percentage or two on top of what I could have made by just passively investing my money in a Vanguard ETF.

Just doing “okay” is not our goal. We want to vastly outperform the benchmark over the long haul... emphasis on long haul. This certainly does not mean that I’m advocating for leveraging up on unnecessary risk like a Bill Ackman and blindly swinging for the fences... that’s *extremely* stupid.

So how do we square this circle then of putting tight risk management above all else while *also* exploiting 90/10 in order to vastly beat the markets?

Fat-tail Exploitation Theory (aka. FET)

FET is our answer to the artful, continuous, and necessarily imperfect balancing act of managing risk with an iron fist while still exploiting the tail distribution of returns for large gains.

You see, we risk on average 75bps on most of our trades because we know most of them won't work out. This keeps us engaged in the markets — acts as a kind of probing trade for sentiment — and occasionally a few of them will run really well.

But every once in awhile — maybe a handful of times a year — a trade will line up so perfectly that you have to take it.

This is when you break your sub 1% rule and up your risk in accordance with your conviction level. Maybe you go to 2% or even 4%. Because these events only come around every so often, you need to exploit them for all they're worth. Putting just 1% of risk at work all the time will keep you in the grinder category forever... and we don't want to be in the grinder category.

Will this trade *always* work out? No, of course not, which is why you need to break the 1% rule only very very sparingly. And the amount at which you do, should be in relation to your experience and ability. Position sizing and trade management are one of the many reasons why trading and investing are as much of an art as they are a science — there are no perfect answers here. Abusing these risk management rules and thinking every trade is a “fat pitch” is the surest way to the poor house — so proceed with caution.

But if you want to get to that next level, then fat-tail exploitation is a skill that you need to master... because this is one of the things that ALL the greats have in common.

Let's do a quick rundown of some of the best FET users:

[Jesse Livermore](#). Possibly the greatest speculator to have ever walked the earth was known as the “Boy Plunger” because he had the habit of making the big bets at just the right time... this is how he made over \$100 million in the 1929 crash.

[Paul Tudor Jones](#) is a master at FET which he used to make \$100 million in the crash of 87' and hundreds of millions more in the Nikkei crash of 1990.

Warren Buffett, also a master at exploiting outlier distributions — I know this is probably surprising since he is known as a steady “buy and hold” type. But look at where the majority of

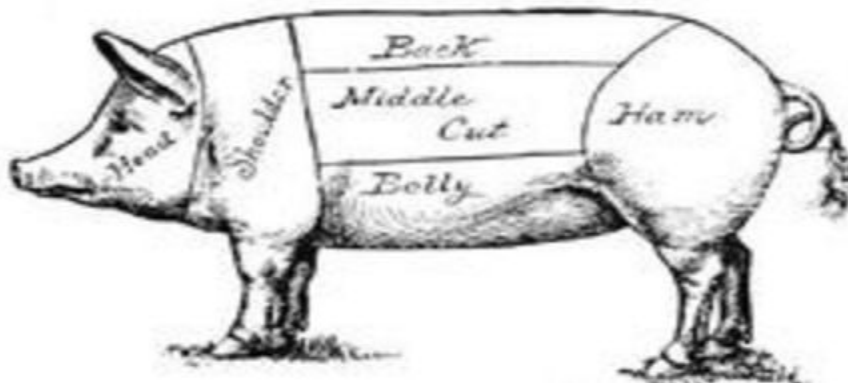
his returns have come from throughout his career; he put nearly half of his money into AMEX after a giant selloff in the 60s... put massive bets on WaPo in the 70s, Geiko at rock bottom prices... and Coca Cola after the crash of 87' — this is FET at its finest.

[George Soros](#), the Palindrome himself, was perhaps the greatest FET master of them all. He made a cool billion in a single day (actually a bit more than a billion) when he took down the Bank of England, betting against the pound. (His total risk on the trade was 9% which was less than the profits he'd already booked for the year.)

Then there's John Paulson who of course made the largest winning bet (in absolute dollar terms) on the sub-prime housing bust, and Julian Robertson, who would purchase up to 20% of a stock when he saw fit... and the list goes on and on.

The greats understand better than anyone, the outlier nature of markets. They use this knowledge to strike aggressively when the timing's right. Listen to what one of my personal favorite traders has to say on the matter. Here's [Druckenmiller](#):

The first thing I heard when I got in the business, not from my mentor, was bulls make money, bears make money, and pigs get slaughtered. I'm here to tell you I was a pig. And I strongly believe the only way to make long-term returns in our business that are superior is by being a pig. I think diversification and all the stuff they're teaching at business school today is probably the most misguided concept everywhere. And if you look at all the great investors that are as different as Warren Buffett, Carl Icahn, Ken Langone, they tend to be very, very concentrated bets. They see something, they bet it, and they bet the ranch on it. And that's kind of the way my philosophy evolved, which was if you see – only maybe one or two times a year do you see something that really, really excites you... The mistake I'd say 98% of money managers and individuals make is they feel like they got to be playing in a bunch of stuff. And if you really see it, put all your eggs in one basket and then watch the basket very carefully.



An old adage on Wall Street is, “Don’t Bet the farm.” But as Druck points out above, sometimes you need to bet the farm — or ranch, as he puts it — to make “long-term returns” in the business of trading.

But we never want to bet the “ranch” in the literal sense. Druck is not saying to put all your equity at risk on one single trade... not even close.

So let’s amend the Wall Street adage, so it’s more fitting to what we’re trying to say here:

“If you’re going to bet the farm... make sure to have more than one farm.”

What exactly your “farm” amounts to is dependent on your skill and experience level. But just for book-keeping sake, it should never be over 10%. And until you get to a master level, it should never be over 5%. And if you’re relatively new to markets... keep it to your 1%. Remember, success is all about survival first, and survival is about playing the long-game.

Absolute patience, total aggression

To properly employ FET you have to practice [infinite patience](#). This is excruciatingly difficult for nearly everybody to do, and takes a lot of practice and experience — plus tons of discipline — to master. But it is crucial to exploiting 90/10... cause most trades are losers and you can’t force the winners — the market doesn’t care what you want!

In addition, not only is infinite patience necessary for waiting for the fat pitches to come your way but it’s also paramount to you managing them correctly.

Because once you’ve caught a big trend you will have a tendency to take profits prematurely — most people fall prey to this tendency. So FET is as much a function of correctly sizing up your risk for these outlier events as it is a matter of proper trade management... making sure to stick with the trend and pyramid correctly.

This skill is essential to many other disciplines for similar reasons; here’s Gary Kasparov from his book [How Life Imitates Chess](#) (*emphasis added is mine*):

*In chess we have the obligation to move; there is no option to skip a turn if you can’t identify a direction that suits you. One of the great challenges of the game is how to make progress when there are no obvious moves, when action is required, not reaction. **The great Polish chess master and wit Tartakower half-joking called this the “nothing to do” phase of the game. In reality, it is here that we find what separates pretenders from contenders.***

*The obligation to move can be a burden to a player without strategic vision. **Unable to form a plan when there isn't an immediate crisis, he is likely to try to precipitate a crisis himself and usually ends up damaging his own position. We learned from Petrosian that vigilant inaction is a viable strategy in chess, but the art of useful waiting takes consummate skill. What exactly do you do when there is nothing to do?***

*We call these phases “positional play” because our goal is to impose our position. You must avoid creating weaknesses, find small ways to improve your pieces, and think small — but never stop thinking. One tends to get lazy in quiet positions, which is why positional masters such as Karpov and Petrosian were so deadly. **They were always alert and were happy to go long stretches without any real action on the board if it meant gaining a tiny advantage, and then another. Eventually their opponents would find themselves without any good moves at all, as if they were standing on quicksand.***

In life there is no such obligation to move. If you can't find a useful plan, you can watch television, stick with business as usual, and believe that no news is good news. Human beings are brilliantly creative at finding ways to pass time in unconstructive ways. At these times, a true strategist shines by finding the means to make progress, to strengthen his position and prepare for the inevitable conflict. And conflict, we cannot forget, is inevitable.

Markets are dominated by “nothing to do” phases. This is because they are mostly efficient (though to be honest, I hate that term “efficient”). But it's the truth that most of the time it pays to be holding steady and passively collecting a coupon (risk premia, beta, etc.).

Keynes said it right, “The game of professional investment is intolerably boring and over exacting to anyone who is entirely exempt from the gambling instinct; whilst he who has it must pay to this propensity the appropriate toll.”

If you're a trader/investor, you have this gambling instinct, though you may not want to admit it. It's best to acknowledge the fact it's present so you can manage it — and it really is just a part of our human nature.

But, moving on... how do you identify the 10% trades where you should employ FET?

Well, like most things in trading there is not a single easy answer to that question — and it ultimately depends on your specific strategy.

I'll tell you what we do.

We identify FET opportunities by using what we call the Fusion approach (you can read all about it in our [ebook](#)). The Fusion approach stemmed from the [Marcus Trifecta](#) (in addition to our years of study and deconstructing the greats, as well as markets).

The Marcus trifecta consisted of utilizing the following:

1. Technicals
2. Fundamentals
3. Sentiment

We have taken this analysis approach and included macro (of course) as well as a bit of quant. We've tried to take the most effective forms of each school of analysis and fuse them together into a single system, where the whole is greater than the sum of its parts.

The fat-pitch trades will check each one of these boxes. They will have a very clear path of least resistance with Atlas-V boosters behind them... just waiting to ignite.

They will also have a lot of narrative divergence. Narrative divergence is something you will hear us talk about frequently, but this is simply the gap between the narrative of what the market is pricing in and reality — or what you think the likely outcome will be. Simply, they are large mispricings.... The larger, the better.

Examples of this are short crude in late 2014, long USDJPY from 13'-15', or long AAPI in 09'. Short equity indexes right now is starting to check more and more of these boxes, just not quite fully there yet, but close (we'll talk more on that in a sec).

This is just a very broad overview of how we employ FET.

We could even throw on top of this the equally important skills of:

- Portfolio Management: How to think about correlation risks and picking complementing trades to fill up your basket.
- Trade Management: One of the toughest things to get right. How and when to pyramid; take profits and cut losses... this can quickly become a complete rabbit hole.
- Self-awareness: What makes you tick? Where's your bias in this analysis and are you looking at things objectively etc...

One of my favorite parts from Barton Bigg's book, [Hedgehogging](#), is where he is talking to Tim — a very successful macro employer of FET — here's an excerpt:

Tim works out of a quiet, spacious office filled with antique furniture, exquisite oriental rugs, and porcelain in a leafy suburb of London with only a secretary. My guess is he runs more than \$1 billion, probably half of which is his. On his beautiful Chippendale desk sits a small plaque, which says totis porcis—the whole hog. There is also a small porcelain pig, which reads, “It takes Courage to be a Pig.” I think Stan Druckenmiller, who coined the phrase, gave him the pig. To get really big long-term returns, you have to be a pig and ride your winners... When he lacks conviction, he reduces his leverage and takes off his bets. He describes this as “staying close to shore... When I asked him how he got his investment ideas, at first he was at a loss. Then, after thinking about it, he said that the trick was to accumulate over time a knowledge base. Then, out of the blue, some event or new piece of information triggers a thought process, and suddenly you have discovered an investment opportunity. You can’t force it. You have to be patient and wait for the light to go on. If it doesn’t go on, “Stay close to shore.”

In a nutshell, it’s conviction that makes exploiting fat-tails (FET) and maximizing your 90/10 possible. These situations where frequency is low but expectation is high are your keys to making large profits over time. This is when you bet big and ride the trend. When the markets are in their “nothing to do” phase is when you “stay close to shore,” playing small and tight, waiting *patiently* for the chance to “be a pig.”

Conviction comes from knowledge and experience. Knowledge of the 90/10 law of market returns is what tells you to practice infinite patience, and experience gives you the conviction to pivot from patience to complete aggression, allowing you to exploit fat-tail events. I’ll end this section with this bit from Livermore:

And right here let me say one thing: After spending many years in Wall Street and after making and losing millions of dollars I want to tell you this: It never was my thinking that made the big money for me. It always was my sitting. Got that? My sitting tight! It is no trick at all to be right on the market. You always find lots of early bulls in bull markets and early bears in bear markets. I’ve known many men who were right at exactly the right time, and began buying and selling stocks when prices were at the very level which should show the greatest profit. And their experience invariably matched mine – that is, they made no real money out of it. Men who can both be right and sit tight are uncommon. I found it one of the hardest things to learn. But it is only after a stock operator has firmly grasped this that he can make big money. It is literally true that millions come easier to a trader after he knows how to trade than hundreds did in the days of his ignorance.