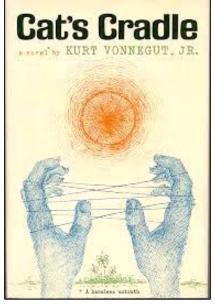


Epsilon Theory

June 21, 2016





Kurt Vonnegut, "Cat's Cradle" (1963)

"I'm not a drug salesman. I'm a writer."
"What makes you think a writer isn't a drug salesman?"

"No wonder kids grow up crazy. A cat's cradle is nothing but a bunch of X's between somebody's hands, and little kids look and look and look at all those X's . . ."

"And?"

"No damn cat, and no damn cradle."

The Fourteenth Book is entitled, "What Can a Thoughtful Man Hope for Mankind on Earth, Given the Experience of the Past Million Years?"

It doesn't take long to read The Fourteenth Book. It consists of one word and a period.

This is it: "Nothing."

Negative rates are ice-nine. If you don't know what ice-nine is, read the book. Spoiler alert: the world ends.

TIAA will end the voluntary expense waiver on the CREF Money Market Account by April 14, 2017. This decision was reached after ongoing discussions with the TIAA and CREF boards, as well as our state insurance regulator. It is anticipated that unless interest rates rise sufficiently, one or more classes of the CREF Money Market Account may have negative yields after the waiver ends.

- TIAA Plan Update Review Guide 2016 [italics mine]

A great Hope fell You heard no noise The Ruin was within.



Emily Dickinson (1830 – 1886)

Admit it. You assume her poetry is soft because she's a woman and writes about flowers. Read it again. Emily Dickinson is a total badass. You don't even feel the slice of her work, but then you see the blood.



Fed Governor James "Bleeding Man" Bullard

I saw her today at the reception In her glass was a bleeding man She was practiced at the art of deception Well I could tell by her blood-stained hands

You can't always get what you want
You can't always get what you want
You can't always get what you want
But if you try sometimes you just might find
You just might find
You get what you need

 Mick Jagger and Keith Richards, "You Can't Always Get What You Want" (1969)

The Federal Reserve Bank of St. Louis is changing its characterization of the U.S. macroeconomic and monetary policy outlook. An older narrative that the Bank has been using since the financial crisis ended has now likely outlived its usefulness, and so it is being replaced by a new narrative. The hallmark of the new narrative is to think of medium- and longer-term macroeconomic outcomes in terms of regimes. The concept of a single, long-run steady state to which the economy is converging is abandoned, and is replaced by a set of possible regimes that the economy may visit. Regimes are generally viewed as persistent, and optimal monetary policy is viewed as regime dependent. Switches between regimes are viewed as not forecastable. — James Bullard, "The St. Louis Fed's New Characterization of the Outlook for the U.S. Economy" (June 2016)

Jim Bullard's resignation letter here in the Silver Age of the Central Banker, as he adopts the game theoretic concept of minimax regret theory and the postmodern social theoretic concept of narrative construction.

And the cat's in the cradle and the silver spoon Little boy blue and the man on the moon When you comin' home, Dad I don't know when, but we'll get together then You know we'll have a good time then

- Harry Chapin, "Cat's in the Cradle" (1974)

Though nothing can bring back the hour
Of splendour in the grass, of glory in the flower;
We will grieve not, rather find
Strength in what remains behind;

- William Wordsworth (1770 - 1850)



"Splendor in the Grass" (1961)

Warren Beatty and Natalie Wood's best work. I experience this movie so differently today, as the father of four teenage daughters, than I did watching it as a young man. In investing as in life, we all love and lose. The question is how you deal with it.

If we will be quiet and ready enough, we shall find compensation in every disappointment.

- Henry David Thoreau (1817 - 1862)

In his classic work on game theory, "The Strategy of Conflict", Nobel Prize winner Tom Schelling begins by writing about cooperative games, where players are trying to arrive at a common outcome for a mutual benefit. This is a different class of games from the competitive games like Chicken and Prisoner's Dilemma that we usually consider when we think about game theory, but in truth it's the cooperative games that account for so much more of our daily lives and social interactions. For example, driving on the right-hand side of the road (or the left-hand side in the UK) is an example of a cooperative game equilibrium. The only thing that matters is that we agree on which side of the road we drive on, not that my preferred side or your preferred side ends up being the final choice.

The most interesting cooperative games are those where — unlike driving conventions — we don't have a government or other authority telling us what our agreement should be. Even more interesting are those games where we can't communicate directly with the other players to talk through the appropriate equilibrium behavior that works for all concerned. For example, let's say that a friend and I agree to meet in New York City at 1 pm tomorrow. Unfortunately, we neglected to agree on a location to meet, and now I have absolutely no way to communicate with my friend, or vice versa. What do we do?

As Schelling writes, almost everyone will, in fact, meet their friend successfully tomorrow at 1 pm in New York City. Where? By the big clock in the middle of Grand Central Station. Why? Because there is Common Knowledge — something that everyone knows that everyone knows — to guide both me and my friend to this outcome. Now Schelling doesn't call it Common Knowledge — he calls it a focal point — but it's exactly the same thing. And once you start looking for focal points that drive our strategic behavior in the cooperative games that comprise our daily social lives, you see them everywhere.

Okay, Ben, all kinda interesting, but what's the point? The point is that when governments undertake emergency actions and extraordinary policies, they obliterate the focal points that make our cooperative games of investing and market making possible.

Specifically, extraordinary monetary policy has obliterated the focal points of price discovery. When you no longer have Common Knowledge regarding the price of money, you don't have Common Knowledge regarding the price of anything. For more than seven years now, investors have been sitting down at the poker table ready to play the cards they're dealt, only to find that central bankers with infinitely high stacks of chips have sat down at the table, too. And as any experienced poker player knows, the cards are meaningless if you tangle with an opponent like this. Maybe you think that was a bad flop. Maybe you think Nestle investment grade debt is worth 99 cents. But what you think about valuation and intrinsic

worth Does. Not. Matter. when the infinite stack player says with his inexhaustible string of bets of massive size that this was actually a wonderful flop and that Nestle investment grade debt is actually worth \$1.10 and the Emperor is actually wearing a beautiful suit of clothes. The very act of stock-picking or bond-picking or security selection in general has become nothing more than a bad joke in vast swaths of global markets. It's a crooked game — a moke's game — but it's the only game in town.

Specifically, extraordinary regulatory policy has obliterated the focal points of liquidity. When you no longer have Common Knowledge regarding the ability of banks to make markets and hold an inventory of securities, you don't have Common Knowledge regarding the liquidity of anything. The market risk from a Brexit "Leave" vote, for example, has absolutely nothing to do with anything in the real economy, and next to nothing as a signal or precedent for the core currency union of the EU. Instead, the market risk from a Brexit "Leave" vote is a liquidity shock in currency, rates, credit, or derivative securities that sets off a chain reaction of liquidity shocks across global risk assets. This sort of liquidity shock is temporary, to be sure, but that's no consolation at all if you find yourself stopped out of a position. When trillions of dollars in risk assets move by several percentage points because a few thousand quid switched from one line or another in a UK betting parlor, or because the latest online poll with suspect (to be kind) methodology is printed by a tabloid ... you can't tell me that market liquidity and structural normalcy is more than skin deep. We swing from pillar to post and endure mini-Flash Crashes on a regular basis because too often the act of making a market in, say, equity index volatility is a potential career-ender for anyone sitting on a bank trading desk, and that's entirely the result of unintended consequences from financial regulations like Dodd-Frank.

It's the combination of focal point obliteration, from both monetary policy and regulatory policy sources, that creates the most powerful and destructive earthquakes in our investment landscape. For example, I'm often asked if I think that negative rates will ever come to the U.S. My answer: they're already here by proxy (U.S. Treasury rates are so low today because German Bunds are negative out to 10 years duration), and negative rates will hit the U.S. in earnest and in practice early next year. How? Major U.S. money market fund providers like TIAA-CREF have already announced plans to stop providing fee waivers as new regulations force fund type consolidation, which will create negative rates in the safe, liquid funds that remain. It's baked in. It's going to happen. As George Soros is fond of saying, I'm not predicting. I'm observing. And nothing will ever be the same. If you think that the current anguished cries from savers and retirees and public pension plans are loud now ... if you think that the rewardless risk of modern markets can't get any worse ... well, just wait until your money market fund starts charging you

interest for the privilege of investing *your* cash in short-term government obligations. Just wait until Nestle floats a negative interest rate bond. Just wait until *borrowing* money, not lending money, becomes a profit center. Just wait until the entire notion of compounding — without exaggeration the most important force in human economic history — is turned on its head and becomes a wealth destroyer.

Sigh.

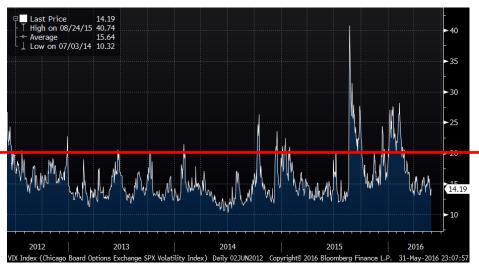
You know, I've written a lot of Epsilon Theory notes over the past three years. As I figure it, about three novels' worth and just over the halfway mark of *War and Peace*. But in all that time and across all those notes I've never felt so ... resigned ... to the fact we are ALL well and truly stuck. The Fed is stuck. The ECB and the BOJ are stuck. The banks are stuck. Corporations are stuck. Asset managers are stuck. Financial advisors are stuck. Investors are stuck. Republicans are stuck. Democrats are stuck. We are all stuck in a very powerful *political equilibrium* where the costs of changing our current bleak course of ineffective monetary policy and counter-productive regulatory policy are so astronomical that The Powers That Be have no alternative but to continue with what they know full well isn't working.

It's through this lens of resignation that I think we should view one of the most fascinating Missionary statements of the past 20 years, St. Louis Fed Governor Jim Bullard's latest paper, where he says that the entire exercise of Fed guidance and dot plots and planning for interest rate increases and interest rate normalization is a complete and utter waste of time. In fact, he goes farther than that. Bullard writes that forward guidance is actually highly counter-productive and credibility destroying, because it teases us with the notion that normalization is possible, when, in fact, absent some *deus ex machina* miracle, it's not. My god, you think I'm a downer? This is the President of the St. Louis Fed, saying that everything the FOMC has been doing for the past four years is just a bad joke! Or as Vonnegut would say, there's "no damn cat and there's no damn cradle" in the oh-so-complex hand weaving that Bernanke and Yellen have crafted with forward guidance, no matter how hard we look. The Emperor has no clothes.

What Bullard wrote is a letter of resignation. Not just a letter of resignation in the sense of quitting one's job (although that, too ... if you're not going to play the game you were appointed to play, if you're just going to pick up your dot plot and go home, then you should actually go home), but more importantly in the emotional sense of resignation to one's fate. It's a capitulation, a recognition that the U.S. is well and truly stuck in the current macroeconomic regime of low growth + massive debt + insanely low interest rates, and there's nothing the Fed can do in terms of jawboning or "communication policy" or forward guidance to get us out. So, Bullard says, let's stop this charade of dot plots and just admit the truth: rates

are not going up, maybe not EVER, until something beyond the Fed's control shocks the world into some other macroeconomic regime.

By the way, here's the problem with what Bullard is saying: the current regime/stable equilibrium of low growth + massive debt + negative interest rates isn't something that just "happened". It's not like the Fed woke up one morning to find that some terrible houseguest soiled the sheets and overfed the dog and left a lit cigarette smoldering in the trash can. Please. Here's a 4-year chart of the VIX, looking for all the world like a Whack-a-Mole game, as every surge in volatility is met with a mallet strike of Large Scale Asset Purchases (LSAPs), forward guidance, or (outside the U.S.) interest rate cuts well past the zero-bound.



Source: Bloomberg, as of 05/31/2016

Over the past four years, we haven't seen the VIX stick over 20 for more than 2 months. Compare this to the seven year period of Sept. 1996 – Sept. 2003, where the VIX was almost never *below* 20.



Source: Bloomberg, as of 05/31/2016

Granted, there were some scary market moments from late 1996 through late 2003, but it's not like the past four years have been a walk in the park. I don't think anyone can deny that we are living today in a different regime or state of the world, where volatility is simply not *allowed* to raise its ugly head as it always has in the past. **That's the** Entropic Regime in a nutshell — volatility is not allowed to reach historically normal levels. Not allowed by whom? By central banks, of course. S&P 500 down 8%? Gasp! We must provide more accommodation! The macroeconomic regime that Bullard finds so objectionable and resistant to any policy choices was created lock, stock, and barrel by the Fed and their regulatory cousins. They weren't trying to lock the world into the Entropic Regime, a long gray slog where neither recession nor real growth appears, and maybe the world would have been even more wrecked if they had taken a different path, but they did what they did all the same.

My issue with Bullard is neither his assessment of the current macroeconomic regime nor the silliness of forward guidance and Fed communication policy. I am in violent agreement with Bullard in his recognition of the power of Narrative and the simple fact that all of our crystal balls are broken. But don't tell me that the Fed "has no choice" but to accept the current macroeconomic regime, because they DO have a choice. The Fed giveth. The Fed can taketh away. It's just a very, very painful choice that the Fed would have to make in order to taketh away, full of loss assignment and bankruptcy and status quo shattering. It's a very brave choice they would have to make, a Volcker-esque choice they would have to make. And that's why I don't think they will ever do it.

So we're left with Hope, hope that a miracle occurs after the November election to change our current political regime of decay and macroeconomic regime of low growth + massive debt + negative interest rates. Politically on the left, it's hope that Hillary Clinton isn't really as venal and principle-less and in-the-bag for Big Money and Big War as she seems. Politically on the right, it's hope that Donald Trump doesn't really mean what he says about Muslims and Hispanics and judges and torture and libel and debt and women and and and. On both the left and the right, it's hope that the election will yield some massive Keynesian public infrastructure spending spree, where our "crumbling roads and bridges" are made whole, where every city gets a football stadium for the local billionaire's use, and where high-speed rail and gleaming airports usher in a new age of productivity and easy trips to Grandma's house. Truly, as Voltaire's Pangloss would say, this is the best of all possible worlds.

But hope, of course, is not a strategy. What do investors and advisors and voters — The Non-Powers That Be — DO when the entire world is stuck in a powerful negative equilibrium, when we are presented with nothing but *miserable* choices, at the ballot box and public markets alike? How can we find

"compensation in our disappointment", to quote Thoreau? Or to be slightly more modern in our references, let's accept that we can't get what we want. Can we at least get what we need?

To answer that question, at least from an investment perspective, I need to go back to the big Epsilon Theory note I wrote earlier this year, "Hobson's Choice." I'm not going to repeat much of that here (at 26 pages long, it's a bit of a tome), except to say that it's as close to an Epsilon Theory investment strategy as I can convey in this public venue. But here's the skinny, with what I call Five Easy Pieces for the Investment World As It Is.

We're in a storm. Mind your sails.

We're in a game. Play the player.

We're in a negative carry world.

Think like a short seller.

We're in a policy-driven market. Don't trust the models.

A policy-controlled market is next. Look to real assets.

In and of themselves, admonitions like "Mind your sails" may not sound like much, but I promise they make sense in context. Here's what they mean translated into market behaviors.

Mind your sails. Keep risk constant, not dollars.

Play the player. Trend-following is a thing.

Think like a short seller. Focus on catalysts.

Don't trust the models. Minimize regret.

Look to real assets. Survive the politics.

Now the point of "Hobson's Choice" is that these behaviors I'm describing, like "Keep risk constant, not dollars", are new ways of describing good old-fashioned investment ideas that just so happen to conflict

with other investment ideas that have become rote articles of faith in our modern, overly equity-centric vision of what it means to be a "good" investor. For example, I think that it's nuts to stay fully invested in the stock market through thick and thin, and I would love to embrace that most-hated epithet in investing today: market timer. (Shudder!) But I can't SAY that I'm a market timer, any more than I could say that I'm a libertarian or that I love Emily Dickinson's poetry or that my wife and I homeschool our children ... no, no, you wouldn't take me seriously if the conversation about politics or books or education were framed in this way. It's the same with investing. In the immortal words of John Maynard Keynes, "it is better for reputation to fail conventionally than to succeed unconventionally" (and for an Epsilon Theory twist, I'd add, "and if you fail unconventionally, then your reputation is really dead"), which means that even if you agreed with me on the virtues of market timing, you'd never adopt a strategy based on market timing, because it would be way too risky from a social perspective. I mean, just imagine the shame if your client or wife or partner thought you were a ... again, I can hardly bring myself to write the words ... market timer. Oh, the humanity!

So let's change the conversation. I'm NOT a market timer. Nope, not me. Instead, I'm a risk balancer. I have fewer dollars in the market when risk goes up, and I have more dollars in the market when risk goes down. Will I be over-invested in the market when it hits a top and rolls over? Yep. Will I be under-invested in the market when it hits bottom and turns up? Yep. But I'm going to be adding to my dollar exposure all the way up and I'm going to be subtracting from my dollar exposure all the way down. I'll take those odds. And just imagine if I did this risk balancing thing across asset classes, or maybe across yield-oriented strategies. Hey, now.

Here are the broad categories of strategies that the Five Easy Pieces market behaviors imply.

Keep risk constant, not dollars. Risk Balanced Strategies

Trend-following is a thing. Managed Futures Strategies

Focus on catalysts. Long/Short Strategies

Minimize regret. Convex Strategies (Optionality)

Survive the politics. Active Mgmt for Real Assets

Is this a comprehensive list? Of course not. But it's a start. Over the next few months I'll try to take each topic in turn and dig into the specifics, or at least as much of the specifics as I'm allowed in this very public setting. Some of the topics have already been discussed at some length in prior notes (for Convex Strategies, for example, be sure to read one of my personal Epsilon Theory faves, "I Know It Was You, Fredo"), others will be largely starting from scratch or going in a new direction from the past. If you're a professional investor or allocator and want to dig in more deeply than what you read in these pages, don't hesitate to reach out.

You know, Emily Dickinson published fewer than a dozen of her almost 1,800 (!) poems while she was alive, and if not for a determined sister with a narrow interpretation of Dickinson's final wishes (she asked for her correspondence to be burned, and it was, but she didn't specifically say anything about the box of poems next to her letters), all of this genius work would have been lost. In Dickinson's day, there was way too much intermediation and way too many barriers between author and audience. We got lucky. Today, there's way too little intermediation and way too few barriers between author and audience, such that all of us are inundated with "content" and "marketing collateral", to use the lingo. Dickinson's challenge was standing up. My challenge is standing out. Thanks to all of you who have actively spread the word about the Epsilon Theory project and helped build the vibrant community that we have today. Keep those cards and letters coming (I really try to respond to everything I get), and please check out the Epsilon Theory podcasts when you get a chance. It feels like we're just getting started, and that's something that warrants Hope, indeed.

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