2 Fast 2 Furious

"We are all impaled on the crook of conditioning." – James Dean (1931 – 1955)

This note is a sequel to my letter from two weeks ago, *What We've Got Here Is … Failure to Communicate*, a sequel made necessary by the market fall-out from the FOMC announcement on Wednesday. The Fed's communications to the market are clearly not having the effect intended by Bernanke et al., and the problem remains that the Fed is clueless about the game-playing that dominates this market. The car-driving analogy used by Bernanke in Wednesday's press conference (to paraphrase, "we are not putting our foot on the brake, we are taking our foot off the accelerator"), intended to soothe and placate, is a perfect example of the Fed's tone-deafness. **From a game-playing perspective, taking your foot off the accelerator is more important than putting your foot on the brake.** It is an informational inflection point that absolutely changes game-playing behavior in potentially extreme ways.

Rebel Without a Cause (1955)

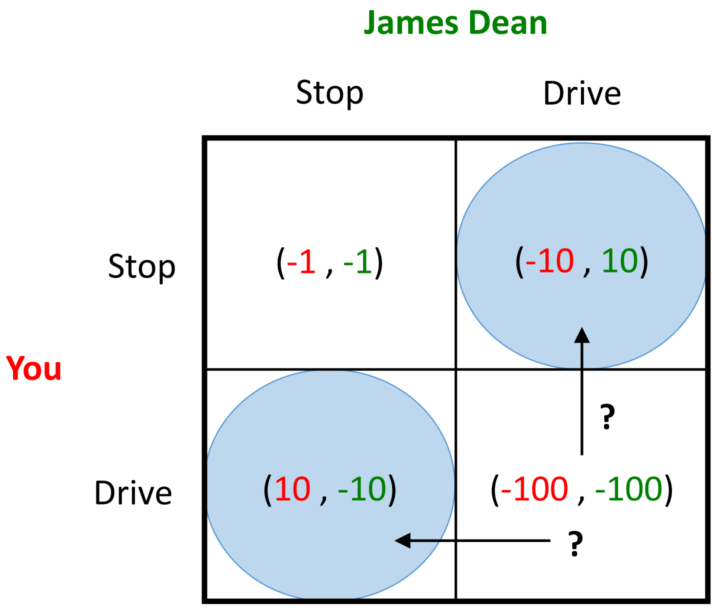
We're all familiar with the classic game of Chicken as depicted in popular narrative: two hot-headed teenagers race their cars toward a cliff's edge; the first to brake or swerve is the Chicken who loses the game and the girl. Cue Natalie Wood to drop the white handkerchief and start the race …

Now put yourself in the shoes of one of the drivers. Let's assume that you want to win the game but you also don't want to die. How do you play this game?

There are two well-known strategies to win a game of Chicken. The first is to signal your opponent convincingly that you really don't care about living past this race, that you prefer to die young and leave a pretty corpse. The second is to signal convincingly that you have no control over your ability to stop the race or swerve out of the way once you begin … rip the steering wheel out of your car or something like that. The problem with these strategies is that they require effective signaling prior to the race's start. It really doesn't do you much good if you remove your steering wheel and pre-commit yourself to driving off the cliff if your opponent doesn't see you do it! Also, if you make these signals and your opponent still goes forward with the race, then you've already lost. Why? Well, if you're signaling strongly that you'd rather die than lose the race, but your opponent decides to race anyway, what does that signal about him? In poker terms, your all-in bluff was just called.

Here's why Chicken is so hard to play if the race begins and you're heading towards the cliff … given the extreme consequences of going off the cliff, your rational decision is to stop your car and let the other guy win. But that logic applies to your opponent, too, and you know it. The rational decision for your opponent is to stop his car and let you win. Both of you want to stop your car, but both of you know that both of you want to stop your car. Why shouldn't he stop his car first instead of you? Of course, he's thinking the same thing, and the clock is ticking on both of you going off the cliff.

In formal terms, the game of Chicken has two pure strategy equilibria, and that's what makes for its extreme instability. Below on the left is a classic two-player Prisoner's Dilemma game with cardinal expected utility pay-offs as per a customary 2x2 matrix representation. Both you and James Dean have only two decision choices – Stop and Drive – with the joint pay-off structures shown as (you , James Dean) and the twin equilibrium outcomes (Drive , Stop) and (Stop , Drive) shaded in light blue. With this informational structure, there is absolutely no way to predict which equilibrium will end up occurring, or whether any equilibrium will result.



So you're still in the race, you've still got the pedal to the metal, and you're starting to freak out. Should you stop the race and let James Dean win? That cliff edge is looming closer and closer, and you are suddenly struck by the realization that your corpse will not be so pretty when pulled out of the wreckage. But then you notice something … your car is starting to pull ahead of James Dean's car. You know that your car isn't faster than his, so the only explanation is that James Dean has let up on the accelerator. He's not putting on the brake, but the informational value of this reduction in acceleration is HUGE. Now you know that James Dean is wavering more than you are. And you know that James Dean knows he is wavering more than you are. **Once an unstable game like Chicken tips towards one equilibrium or the other, it moves inexorably towards that equilibrium, faster and faster.** Once James Dean starts to waver, both of you know that the next move is for him to waver more and you to waver less. You have won this game, and both of you know it, well before James Dean actually puts his foot on the brake.

Now to be clear, I'm not saying that the game-playing that occurs in markets is a straightforward corollary of Chicken. It's much more aptly described as a Common Knowledge game. But what the current Common Knowledge market game shares with Chicken is that it is extremely unstable (see *Through the Looking Glass, or … This is the Red Pill*). And **in unstable games, a change in the change of a critical data function – what's called the second derivative – is incredibly influential on game-playing behavior.**

The critical data function in your Chicken Run with James Dean is the position of the two cars. The speed of the cars (change in position over time) is the first derivative of this function, and the acceleration of the cars (change over time in the change in position over time) is the second derivative. If you were to draw a line on a graph to mark the position of the cars over time, the speed of the cars is the slope of that line at any given point in time (more speed = steeper slope = more distance per unit of time) and the acceleration of the cars is the curvature of that line (the slope of the slope). When acceleration stops, the slope of the line is still steep (the cars are still going really fast) but it's no longer curving upwards. **This is what's called a negative inflection point.** It's the point where the marginal change in your position over time stops getting better. And that's a really big deal for any rational decision-maker in any strategic environment, whether it's high school in the 1950's or the market in 2013.

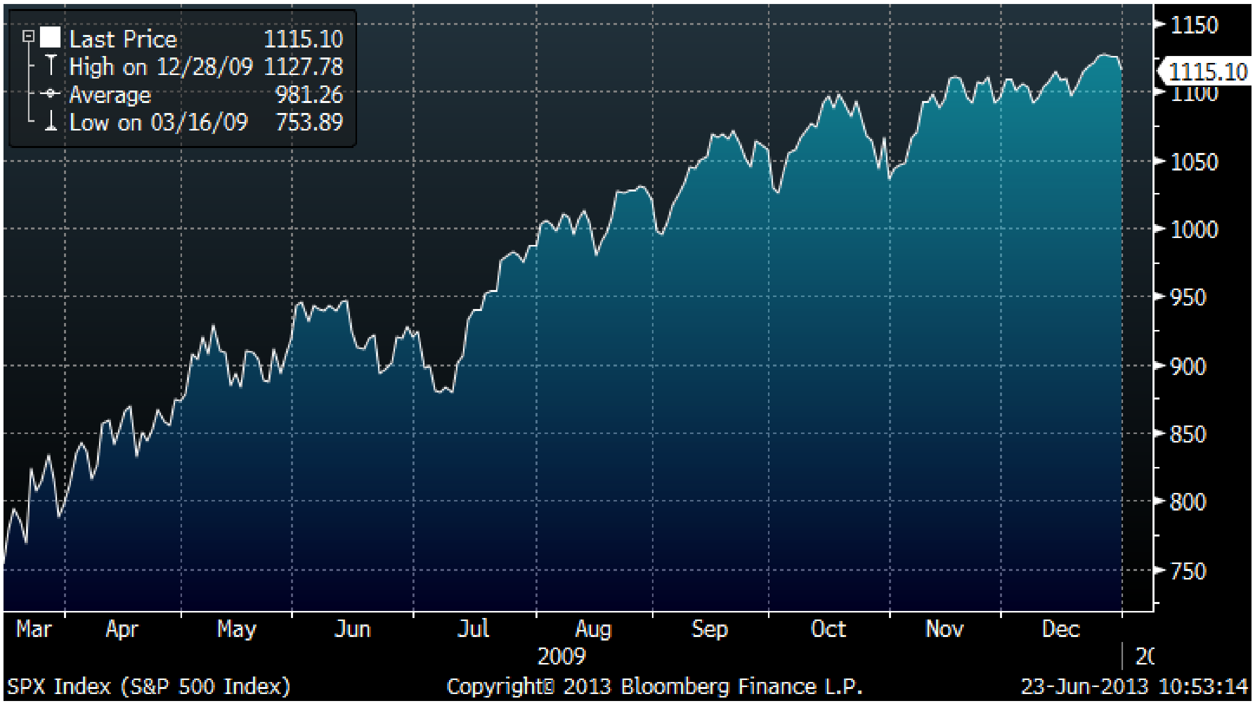
For all the reasons I've laid out in prior work (*What We've Got Here Is … Failure to Communicate*), the critical data function in the market's expectations of future Fed policy is the unemployment rate, and what the Fed said on Wednesday is that the unemployment rate is improving faster than they previously thought it would. Everyone knows that everyone knows that the unemployment rate is going down (the equivalent of our cars moving forward at a nice speed). The new information from the Fed is that this improvement is accelerating. The second derivative of the unemployment rate, the curve of the unemployment rate over time, is changing in a positive direction for the economy.

So why isn't that a good thing for the market? Isn't this good news for the fundamental health of the US economy, and thus good news for corporate earnings and revenue growth? Hasn't the Fed been crystal-clear that it has no intention of actually tightening (putting its foot on the brake), but is going to remain historically accommodative (the car will continue to go fast) even as conditions improve?

Unfortunately, the Fed has also been crystal-clear that it is taking its foot off the accelerator. They announced an inflection point, which has enormous repercussions for game-playing behavior in an unstable game. **This is the point where the marginal improvement in the Fed's support for the market stops getting better and starts getting worse.** And that shift in Fed policy is more than enough to trump whatever organic improvement we are seeing in the US economy.

What we are witnessing today is the opposite of the "green shoots" Narrative of 2009. On Sunday March 15, 2009 Bernanke created the "green shoots" Narrative with a "60 Minutes" television interview (his first) and announced a positive inflection point: from this moment onwards, the marginal improvement in the Fed's support for the market would increase. This was, of course, accompanied by the Fed's first Large Scale Asset Purchase (LSAP) program, also known as QE1, and the rest is history. Here's a chart of the S&P 500 from March 16, 2009 through the rest of the year – an inexorable march upwards for a 48%

increase in this broad market index, one of the most ferocious rallies in history – even as the fundamental health of the US economy remained (to be charitable) challenged.



S&P 500, March 16, 2009 – December 31, 2009 (source: Bloomberg)

In exactly the same way that the market went up sharply in 2009 even as the real economy got worse, so today can the market go down sharply even as the real economy gets better.

How far down? I have no idea. It all depends on how the Narrative is shaped from here. Narrative formation can be tricky thing, and we will see over the coming days and weeks how the Powers That Be and talking heads respond with their public statements to support the market.

This past Friday, for example, at 6:08 AM St. Louis Fed President James Bullard released a statement detailing why he dissented from Wednesday's FOMC decision on dovish grounds. You can find the full text on the St. Louis Fed's website (http://www.stlouisfed.org/newsroom/displayNews.cfm?article=1829) and judge for yourself, but what's notable to me is the act of publishing a formal dissent as well as the stridency of Bullard's language within the usually staid context of Fed-speak. He "found much to disagree with in this decision" and even invoked the C-word – credibility – in his criticism. To suggest that the FOMC might have a problem in its efforts "to maintain credibility" with Wednesday's announcement is the Fed-speak equivalent of going nuclear.

Bloomberg picked up the release of the Bullard's statement (the only FOMC member to make a statement since Wednesday) but didn't give it much attention. The *Wall Street Journal* even less. But then the market went down from the opening bell, continuing the losses from the prior two days. So much for the "Rebound in Stocks" promised by the *Wall Street Journal* before the open, a story which became "Stocks Give Back Gains" soon afterwards.

S&P 500 intraday chart, June 21, 2013 (source: Bloomberg)

The response from major financial print media:

- At 10:15 AM the *Financial Times* published an article about Bullard's statement titled: "Bernanke decision 'inappropriately timed', says St. Louis Fed".
- At 11:20 AM Bullard gave a telephone interview to Bloomberg. Naturally, Bloomberg gave this interview a lot more space than the earlier statement, and kept a story titled "Bullard Says Fed May Need to Boost Asset Buying If Inflation Slows Further" on its Top Stories list throughout the rest of the day.
- At 11:57 AM the *Wall Street Journal* published an article titled "Bullard's Unusual Dissent" in its MoneyBeat section.

The market at least stopped going down after Bloomberg and the *Wall Street Journal* trumpeted the Bullard interview, hitting its lows for the day at 11:31 AM, but the march up didn't begin until about 12:45 PM in anticipation of an influential *Wall Street Journal* article (the *Wall Street Journal* typically publishes its major Opinion-Leading-Masquerading-As-Analysis pieces at 1 PM).

Sure enough, at 1:01 PM the *Wall Street Journal* published an article by Jon Hilsenrath titled "Analysis: Markets Might Be Misreading Fed's Messages" and the market completed its resuscitation immediately after this article came out. "Stocks Give Back Gains" became "Stocks Try to Regain Footing."

How can a *Wall Street Journal* writer move the market so much more than the St. Louis Fed President? Because everyone knows that everyone knows that Hilsenrath is the Fed's favorite print media mouthpiece. This is the market's Common Knowledge about how Fed intentions are revealed. In the Bizarro-market that we must all endure, divining Fed intentions third-hand through Hilsenrath's "analysis" is more informationally influential than hearing the St. Louis Fed President's beliefs directly!

But it's not easy to reshape a Narrative as firmly entrenched as "the Fed will reduce monetary accommodation proportionally to the decline in the unemployment rate." For more than four years now, the market has been trained (and by "the market" I mean both human investors and trading algorithms) to take Bernanke communications as the single most influential signal in determining investment decisions. As James Dean said, "We are all impaled on the crook of conditioning," and no group of individuals or computer programs is more intensively conditioned than market participants.

The only person with enough informational "juice" to undo the inflection point that occurred on Wednesday is Bernanke himself. The only other signal emitters that even come close in their informational influence are Draghi and Merkel. Everyone else – and that includes Obama, much less other FOMC members or any journalist – are an order of magnitude less important from an Information Theory perspective. The Hilsenrath's and the Bullard's of the world can stop the bleeding for a day or two, but they can't change the underlying Common Knowledge structure.

Even someone as informationally powerful as Bernanke is not omnipotent. He must operate under both the institutional constraints of being a lame-duck Fed Chairman and the personal constraints of wanting to cement a legacy … both of which are very powerful and inherently risk-averse forces. To convince the market that the Wednesday announcement meant something different from its plain-faced interpretation would require a wholesale dismantling of prior communications linking unemployment thresholds to QE tapering, and that's something Bernanke will be extremely loathe to do unless he has the formal backing of the FOMC and/or things get a whole lot worse.

Keep in mind, too, that Bernanke's signals are not communicated to us directly, but are mediated by a host of self-serving entities, from political institutions to individuals (including Bernanke himself) to corporations large and small. In the absence of Bernanke making a public *mea culpa* on tying Fed monetary accommodation to the unemployment rate, the best thing for diminishing this market-negative Common Knowledge informational structure would be for these signal mediators to reduce the attention and meaning attached to the unemployment rate. But that ain't happening.

The "good news" of a declining unemployment rate serves too many institutional and personal self-interests for this Narrative to weaken, no matter how weak the broader measures of US labor conditions might be.

For example, listen to what David Axelrod says about the unemployment rate in a panel discussion organized by Axelrod's Institute of Politics: *Campaign Strategists: 2012 Explained*. It's a long video, but for anyone interested in US politics it's a must-see. Why did Obama win in November? Because the unemployment rate went down in the months leading up to the election. It wasn't the Obama campaign's use of Big Data. It wasn't any failing in the Romney message or strategy. The economy got better, *as evidenced and interpreted by the unemployment rate,* and that swung a lot of undecided voters. That's what won the election.

Or look at the ratings for CNBC on Jobs Friday versus any other day of the month … it's not even close. Nuanced discussions of US labor conditions are for Charlie Rose, not Jim Cramer, which is why the former is seen by a handful of people on PBS and the latter is laughing all the way to the bank.

Everyone knows that viewing US labor conditions solely through this single constructed number is simplistic and kinda stupid. But so what? Everyone also knows that everyone knows that this number moves the market. Unless Bernanke reverses course and tells us otherwise, everyone knows that everyone knows that this is a crucial number for the Fed. And all signal mediators – from the White House to CNBC to everyone in-between – have a vested interest in keeping the Narrative of a "healing US labor market" intact. As a result, from an informational perspective it is now easier for this market to go down than to go up. Be careful out there.

