

## Fingers of Instability Redux

### Purpose

The *CJ* Investment Newsletter deals with most of the spectrum of securities investing, including cash (money market funds), bonds, equities and derivatives. It will evaluate the overall investing environment and, from time to time, discuss the relative allocations (including avoidance) of these asset types, as well as strategies to implement them (individual stocks or bonds, CEF's, ETF's, open-end mutual funds, and derivatives). Essentially, it reflects what I'm actually doing with my clients.

However, that's not its only purpose. Even if you never become a client, if you want this information, I want you to have it – for a while, anyway. My hope is that providing this information and teaching you what I think is important when investing may help you. Please contact me if you have any questions or comments. I'd love to hear your reaction to my letter.

These letters are not sent "cold." Either I know you or someone you know gave me your name. Yes, this letter *is* a sales tool. It communicates how I analyze the markets and economy, as well as how I apply my investment strategies, so that you can decide, without any sales pressure, if my thinking is compatible with how you want your money invested. If you're not already a client, I would like to discuss your *becoming* a client. Please contact me for more information.

### Quick Look

#### Market

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- Difficulties in using traditional market analysis tools.
- Revisiting Fingers of Instability.

#### Next

#### Expected Move

?

### **Why Market Analysis is Harder than Ever**

It appears I'm not the only one having difficulty understanding and adapting to the new market conditions that have arisen since 2000, but especially since Ben Bernanke began his series of QE's in 2008. From Robert Prechter's *The Elliott Wave Theorist*, May 2013:

“(Prechter) Last October, money manager Geoff Grant, who knew the stock market was offering a short selling opportunity but one too risky for him to take, announced that he was quitting the game. In a state of obvious frustration and disappointment, he wrote the following message to clients:

“(Grant) There will be good opportunities over the next few years, but I do not believe those opportunities will align with my skill set to allow me an edge in these markets. Government intervention is causing financial investor chaos by destroying the analytical value of any economic or financial variable it touches. The extremely wide ranging

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'(Grant) fiscal and monetary policies since the AIG/Lehman default have rendered financial variables such as interest rates, yield curves, credit spreads and various money supplies useless for either assessing asset values or forecasting. In other words, in trying to artificially prop up the world, global governments have left savvy Wall Street investors completely befuddled and confused. It is a culture of complete artificiality where you can either bet myopically that governments will win in the short term (but risk losing your shirt in the long-term) or you can bet against governments, and be ever so frustrated in the short-term (and then see if your capital survives long enough to maybe just win in the longer-term).'

“(Prechter) **What Grant meant is that the Fed and the government through their massive bailout policies had assured, for the short run, that historical market knowledge will be punished and ignorance of it rewarded.** (My emphasis - CBJV) It has made our job difficult, too. But the belief that the government and the Fed are saviors is an even bigger trap. The investors who will suffer most in the long run will be those who position in line with the state-supported trend.”

I've openly shared how my primary timing tool, the *CJC Indicator*, was rendered almost useless by the Fed's money supply machinations beginning in 2008. I rebuilt the indicator into the *CJC2*, factoring out the enormous changes in the money supply measures since about 2008. I also commented previously that my *CJC* was not the only such fundamental or technical tool whose value was diminished or eliminated by Fed and government policies since that time. Prechter and Grant are heavyweights.

To boil it down, the cheerleaders on CNBC that agree with Fed and government policies that have never been tried before at this level and keep saying that everything is fine and that the government knows what it's doing are basically gamblers. So far, they're winning and they look like geniuses as the markets climb to heights never before seen on a worldwide basis. The question that an investor following their advice needs to ask: Will they get out fast enough to preserve the “profits” they have made, or will they continue to believe in the government as the mother of all bear markets materializes? One last question: What happens to this QE-induced world when the QE punchbowl is withdrawn, as it *has* to be, eventually?

Remember the wisdom of the old Wall Street adage: If you don't *keep* it, you never *made* it.

### Fingers of Instability Redux

In the November 2006 *CJ Newsletter*, I discussed the concepts of the critical state and fingers of instability as described by Mark Buchannan in his book Ubiquity, Why Catastrophes Happen. The brilliant John Mauldin did an amazing job of both describing the effects covered in Ubiquity, as well as applying those concepts to the financial markets in his 4/7/2006 “*Thoughts from the Frontline*” article.

I will try to minimize the amount of ground recovered here, but I have put my original letter up on TCM's website. The address appears on the bottom of every page of every *CJ Newsletter*. One change from the original *CJ Newsletter* is that I did read Ubiquity in its entirety. From the 5/2006 *CJ Newsletter*:

Buchannan's book is based upon the work of three physicists named Per Bak, Chao Tang and Kurt Wiesenfeld. They were studying nonequilibrium systems and they developed a computer program to simulate dropping single grains of sand into a pile. Interestingly, they learned that there is NO typical size for an avalanche. Some were only a single grain tumbling down the pile; others were huge avalanches that wiped out almost the entire mountain. Predicting the size of the next avalanche was impossible. Why?

[Buchannan] "To find out why [such unpredictability] should show up in their sandpile game, Bak and colleagues next played a trick with their computer. Imagine peering down on the pile from above, and coloring it in according to its steepness. Where it is relatively flat and stable, color it green; where steep and, in avalanche terms, 'ready to go,' color it red. What do you see? They found that at the outset the pile looked mostly green, but that, as the pile grew, the green became infiltrated with ever more red. With more grains, the scattering of red danger spots grew until a dense skeleton of instability ran through the pile. **Here then was a clue to its peculiar behavior: a grain falling on a red spot can, by domino-like action, cause sliding at other nearby red spots.** If the red network was sparse, and all trouble spots were well isolated one from the other, then a single grain could have only limited repercussions. But when the red spots come to riddle the pile, the consequences of the

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next grain become fiendishly unpredictable. It might trigger only a few tumblings, or it might instead set off a cataclysmic chain reaction involving millions. The sandpile seemed to have configured itself into a hypersensitive and peculiarly unstable condition in which the next falling grain could trigger a response of any size whatsoever."

This condition is called a *critical state*, meaning that the state contains the opportunity for significant change. [Buchanan] "... after the pile evolves into a critical state, many grains rest just on the verge of tumbling, and these grains link up into 'fingers of instability' of all possible lengths. While many are short, others slice through the pile from one end to the other. So the chain reaction triggered by a single grain might lead to an avalanche of any size whatsoever, depending on whether that grain fell on a short, intermediate or long finger of instability."

Physicists have previously considered such a state to be rare in nature. However, the sandpile game seems to suggest that such a state can arise naturally – and commonly...

[Buchanan] "The peculiar and exceptionally unstable organization of the critical state does indeed seem to be ubiquitous in our world..."

[Buchanan, referring to the sandpile game] "...**every avalanche large or small starts out the same way, when a single grain falls and makes the pile just slightly too steep at one point.** What makes one avalanche much larger than another has nothing to do with its original cause, and nothing to do with some special situation in the pile just before it starts. **Rather, it has to do with the perpetually unstable organization of the critical state, which makes it always possible for the next grain to trigger an avalanche of any size.**"

(Remember, I wrote this in November 2006, prior to the 2007 – 2009 bear market. CBJV)

The message I'm (CBJV) trying to convey is to help explain the reasons for some of our frustrations in the past few years. **First and foremost, the message from the information above leads us to believe that once the market reaches a critical state, the size of any individual correction is completely unpredictable.** I think we can also conclude that a small correction or even a series of small

corrections would not relieve the innate instability of the markets in a critical state without a very large correction that wipes out a significant number of the interlinked fingers of instability.

This new theory allows us to interconnect value fundamentals, Dow Theory and other TA measures as means of determining the likelihood of markets being in a critical state or (for lack of a better term) a "buildable base." I assert here that the markets, especially as measured by the DJI and SPX, continue to be overvalued by most historical measures of value...

I believe the market is in a critical state, and has been so since the late '90's. Granted, there was a series of "washouts" that erased many fingers of instability and that created a buildable base during the period from Q3 2002 through Q1 2003. However, even at the market lows during that time, most value measures of the markets were more indicative of historic bull market tops than bear market bottoms. Ergo, the fingers of instability contained within the market were *not* completely wiped out, leaving a high likelihood that the markets experience a major washout or series of smaller washouts until the market reaches some historic measure of a true bear market bottom (a buildable base).

(End of text from 11/2006 CJ Newsletter.)

### **New Thoughts on Fingers of Instability and the Critical State**

In his 5/3/2013 *Thoughts from the Frontline* article entitled "The QE Sandpile," John Mauldin revisits the sandpile game, fingers of instability, and the critical state, injecting some of his new thoughts related to them. Among these are "fat tails" (related to black swan events), the Nash Equilibrium, and the Debt Supercycle. It's a fine article. You can find it at <http://mauldineconomics.com/frontlinethoughts/the-qe-sandpile>.

One paragraph near the end of his article bears presentation here:

"It's all connected. We built a very unstable sand pile and it came crashing down, and now we have to dig out from the problem. And the problem was too much debt. It will take years, as banks write off home loans and commercial real estate and more, and we get down to a more reasonable level of debt as a country and as a world." Amen, John.

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My newer thoughts on the concepts contained in Ubiquity are focused more upon exactly what is *making up* the sandpile. *In this, I agree with Mauldin in that the sandpile actually consists of debt.* But specifically, it consists of huge piles of currency being issued by central banks. I'm not sure about all central banks, but I know that our Fed issues currency by purchasing debt issued by other entities – generally our federal government.

I think what bothered me the most is that the US stock markets have recovered to new all-time highs from crushing lows occurring in March 2009. From a closing low of 6,547 on 3/9/2009 to a closing high of 15,409 on 5/28/2013, the DJI has rallied 135% since the low barely over 4 years ago. Why? How? Much of that time has been spent in recession. Let me simply assert that while the market rally has undeniably happened, there is NO WAY anywhere near that much real, uninflated value has been created in the US economy to support the rise.

If you've been reading your monthly *CJ Newsletters*, you know that, beginning in 9/2008, the Fed began the most massive creation of US currency EVER. In fact, the Fed tripled the size of M0 (the monetary base) in a period of 7 quarters (21 months).

	<u>M0 (billions)</u>
9/10/2008	874,826
6/1/2011	2,625,301

**From 9/10/2008 until 6/1/2011, the annualized rate of growth for M0 was 71.5%! The "Bernank" and the boys were just getting warmed up. At \$80 billion/month (the current QE infinity scheme), the growth of US\$ will be 36.5% for 2013! And, they say, it's NOT inflationary. Sure it is; under Marshallian K theory and my special Marshallian "Super K" theory (2/2013 *CJ Newsletter*) that kind of currency growth has fueled and will continue to fuel an enormous inflation of stock market prices!**

I think we've established what the "sand" in our sandpile is. **However, what has changed since 9/2008 is the scope of the monetary growth – the number of grains of sand being dropped on the pile at one time. Since the Fed claims to have targeted around 3% as "normal" growth in the money supply, our sand dropping program went from dropping one grain at a time to 24 at a time for those seven quarters and at a rate of, let's say, 12 at a time since then.** Let's discuss what a change of that magnitude would likely do to our existing sandpile as of 9/10/2008.

First, Bernanke began the massive infusions of cash in 9/2008, while the market was still crashing. The bottom was not reached until 3/2009. I believe the sandpile analogy is particularly instructive here in promoting a reason why it took six months of currency injections before the market bottomed and began its Super K rise.

Doesn't it make sense that dramatically accelerating the sand drop rate onto a critical state pile would cause the entire pile to collapse, expressing ALL the old fingers of instability over those 6 months? Once the massive number of grains being dropped flattened the **entire old sandpile**, you would essentially start over with *sandpile n (new)*. Of course, "starting over," in this sense, means with a dramatically larger beginning sandpile n. It also means that sandpile n would build structures much larger than the old sandpile (e.g. the huge rise in the indices).

Sandpile n would also begin building new, larger fingers of instability, which would generally express themselves with avalanches as much larger from the old sandpile as *drop rate n* was from the old drop rate. The Ubiquity phenomenon also explains why there have only been a few, relatively minor corrections since the QE schema were implemented. **Sandpile n has not yet reached the critical state!** Therefore, the expression rate of the avalanches (market crashes, etc.) will continue to be low until the critical state is reached.

Contrary to the governments' desperate attempts to convince us (and themselves) about the improvements in the markets and economy, sandpile n (all currency related economic things) is merely getting bigger, not better. Heaven help us all when sandpile n does reach the critical state. *Such large moves could shatter investor confidence, severely dampening the very behavior the government and the Fed are trying to promote – risk asset investment.*

Now that I've painted this horrible, but likely accurate, picture for you, you may ask, "How do we get out of this?" Like most things that are worth doing, I'm afraid it will have to be the hard way. A solid first step would be for the world's central banks, or at least the Fed, to stop creating money at this insane rate. Perhaps just stop expanding M0 at all for a while. Contraction to a more appropriate level to diminish the inflation threat can wait until the economy stabilizes after the M0 growth cessation. It will hurt. A LOT. However, it won't hurt nearly as bad and as continuously as if we finish building sandpile n to its critical state.