The Unintended Consequences of Chaos

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It's fascinating how sometimes seemingly unrelated things create a web of complexities that ultimately demonstrate how interrelated things might actually be. I think that notion falls into the guise of Chaos Theory or at least some portion of it.

Just to edify, www.fractalfoundation.org defines Chaos Theory as follows:

"Chaos is the science of surprises, of the nonlinear and the unpredictable. It teaches us to expect the unexpected. While most traditional science deals with supposedly predictable phenomena like gravity, electricity, or chemical reactions, Chaos Theory deals with nonlinear things that are effectively impossible to predict or control, like turbulence, weather, ***the stock market****, our brain states, and so on. These phenomena are often described by fractal mathematics, which captures the infinite complexity of nature. Many natural objects exhibit fractal properties, including landscapes, clouds, trees, organs, rivers etc, and many of the systems in which we live exhibit complex, chaotic behavior. Recognizing the chaotic, fractal nature of our world can give us new insight, power, and wisdom. For example, by understanding the complex, chaotic dynamics of the atmosphere, a balloon pilot can "steer" a balloon to a desired location. By understanding that our ecosystems, our social systems, and our economic systems are interconnected, we can hope to avoid actions which may end up being detrimental to our long-term well-being".*

As an adjunct to the above, some may be more familiar with one of Chaos's often used examples: *"Does the flap of a butterfly's wings in Brazil set off a tornado in Texas"?*

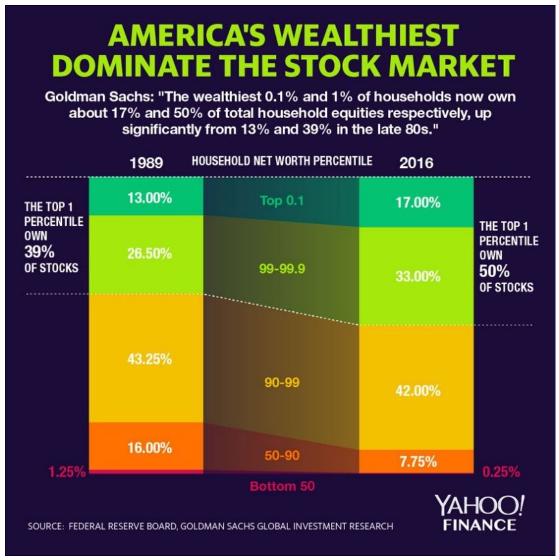
I feel like today's political discourse, which seems to be manifesting itself in policy, or at least the suggestions of new policy/legislation, is beginning to demonstrate just how "chaotic" and interrelated our world has become and more importantly, what implications that might have for major components of our society… including investment. For example, income/wealth inequality has become a new rallying cry for many in the political theatre and that theme will certainly shape and perhaps even decide the outcome of our next election cycle. However, I can't help but think that government policies in general, although aimed at reducing these inequalities could ultimately end up making them worse. Take the Federal Reserve for instance.

A recent report from www.promarkets.com (http://www.wiwi.uni-bonn.de/kuhn/paper/Wealthinequality_April2019.pdf) provides the following observation about our rising wealth inequality gap:

What assets households hold and how much they are leveraged varies systematically along the wealth distribution. Portfolios at the top of the wealth distribution have a large share in corporate and non-corporate equity, making them very exposed to the stock market; while households in the bottom 90 percent, including the typical middle-class household, are heavily exposed to the housing market with the largest share of assets being housing. What increases the exposure to the housing market further is that household leverage increases the further we move down the wealth distribution. These stylized facts persisted over the *entire post-war period so that at any point in time the top 10 percent of the wealth distribution own more than 90 percent of all stock holdings among US households.*

These systematic portfolio differences have consequences for changes in the wealth distribution when stock and house prices change. The top of the distribution benefits from stock market booms while the leveraged bottom 90 percent of the wealth distribution experiences the largest wealth growth during a boom in the housing market. Portfolio heterogeneity along the wealth distribution leads to what can be described as a race between the housing market and the stock market with respect to wealth inequality: Booming housing markets and wealth gains for the middle class tend to decrease wealth inequality, while booming stock markets with wealth gains at the top of the distribution tend to increase wealth inequality.

A recent graphic from Goldman Sach's illustrates (at least half of) the same notion:



As I alluded to and as the narrative and illustration above suggest, certainly some of the current wealth gap is attributable to the rise of the stock market to all-time highs. While there are some who might argue the degree to which this is true, I think it is hard to deny that FED policy has been a major boon to stock prices. By extension, Fed policy has contributed to wealth inequality by simply supporting higher stock prices; prices that some (me included) believe are considerably extended. If we are right about that, the quickest "fix" to income inequality might simply be a marked decline in the stock market, which isn't likely to improve the lives of the lower 99%, and in fact, for a variety of reasons, is likely to *negatively impact* the lower 99%. That begs the question, is wealth inequality the decisive factor or even important in determining how well people are doing *overall*? Succinctly, I worry that government attempts to even the wealth playing field may make matters worse. As the fractal foundation.org further suggests, *"Because we can never know all the initial conditions of a complex system in sufficient (i.e. perfect) detail, we cannot hope to predict the ultimate fate of a complex system.* ***Even slight errors in measuring the state of a system will be amplified dramatically, rendering any prediction useless***". I think that is another way of suggesting that government attempts to fix wealth inequality could have unintended consequences, which seems to be a familiar risk associated with much government policy.

Of course, many might rebut my view by suggesting that income/wealth inequality is a function of unrestrained capitalism.

To that end, the Cato Institute provides the following : (file:///C:/Users/amian/Documents/Summer%202019/pa797_2.pdf)

In the popular imagination, it is an unrestrained free market that gives rise to inequality, and a powerful government is necessary to act as a counterweight. In reality, big government is often complicit with, and frequently the cause of, inequality. Inequality caused by such crony capitalism may be particularly pernicious on economic grounds as well as principles of fairness. For instance, some studies suggest that high degrees of inequality can actually slow economic growth or reduce the amount of freedom in a country. Among them, a study by Southern Methodist University economist Ryan Murphy for the Cato Journal found "inequality appears to have a negative impact on economic freedom." But, other studies show that the key component in this equation is whether the inequality results from normal free-market forces or from government-dispensed favors. According to economists Sutirtha Bagchi of the University of Michigan and Jan Svejnar of Columbia University, "When we control for the fact that some billionaires acquired wealth through political connections, the effect of politically connected wealth inequality is negative, while politically unconnected wealth inequality, income inequality, and initial poverty have no significant effect."

Unfortunately, policies that impact inequalities don't stop at the central banks. We have talked about different congressional hearings on different subjects in the past, but this week's flogging de jure is aimed at large technology companies including Facebook, Google, Amazon and others. Suggestions for dealing with their supposed undue influence range from new layers of regulation to breaking them up entirely. No chance of unintended consequences with that now is there?

I am still trying to wrap my head around how people conclude that services people use for free, completely voluntarily and are largely driven by advertising revenue create antitrust problems that require congressional action? Certainly, Amazon has been a disruptive force in retail and other industries (delivery for instance) and that has negatively impacted some…while considerably benefitting others. Make no mistake, government meddling in the tech industry, driven by what looks to me like a simple disdain for extraordinary success will have major implications for capital and investment decisions going forward. While I am not sure if a butterfly in Brazil can illicit a tornado in Texas, I am quite confident suggesting that policies being floated by many politicians these days could have broad negative implications for our economy and many constituents within it. In the context of Chaos Theory, we can reasonably predict that the *actual* outcome these policies *seek* to deliver, will likely be something they do not.

Obviously, given the elevated levels of equity prices in the face of the negative narrative, especially with respect to some of those in the crosshairs, the street does not seem to concur with that assessment. However, it is hard to imagine that view holding up if current legislative chest pounding/lip service turns into legislative action. In that case, Congress might in fact "solve" the wealth gap…for better or worse.