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UNCERTAINTY in CERTAINTY

I am sure you have all experienced a feeling of knowing with differing degrees of certainty, but cannot fully explain it. The most common way of explaining this experience is to attribute the level of certainty with a higher degree of knowledge or some prefer to rely on a meta psychic experience such as intuition. I am going to attempt a more philosophical explanation using the natural sciences and try and link it to the way I have experienced the markets over the last few months. The learning experience has given me a good perspective of this seemingly crazy world of financial markets. As a non scientist I extend fair warning that I may not be doing these iconic subjects true justice, so please bare with my superficial understanding and before we dive in, I owe credit to physicist/theologian Gerald Schroeder for the germination of the idea from his book, "The Science of G-d".

The story begins with the birth of a famous French Mathematician in 1749 by the name of Pierre-Simon Laplace who took the Newtonian mechanical approach of cause and effect and pioneered a whole new field of study called Causality or Determinism (there is a difference but let us leave Determinism for another "Back to School" section). In staying with this approach of cause and effect, Laplace introduced the idea of accurate forecasting, believing that every aspect of the universe and by extension life could be predicted by knowing the cause and applying empirically validated formulae (e.g. Newton's 2nd law) to derive the effect. These insights were further strengthened early in the last century by Einstein's, "General Theory of Relativity".

Now this is where things get interesting, lets meet Mr Heisenberg an Austrian Physicist who discovered in 1927 that the more precisely one is able to identify a physical property the less precisely one can predict nature's causative effect; his discovery called Heisenberg's Uncertainty Principle is the foundation to the ever growing field of Quantum Mechanics. According to the Uncertainty Principle explained by the equations of Quantum Mechanics it is impossible to measure a microscopic particle with any degree of accuracy or certainty and the more microscopic you go the less certain the equation becomes. To my simple mind the more confined the space it would make sense that the more accurate your predictions are likely to be, but the reality of nature is not so intuitive. Another way this discovery is often unknowingly explained is that the more you know about a certain area of specialty the more you realize how little you know. This is counter intuitive but is the reality of the experience.

So let's try and apply these fascinating discoveries to the trading of financial markets and see what philosophical insights we can draw so that we become wiser in our approach to money management.



Laplace taught us about cause and effect; Economics left to its true free market essence is after all a reflection of life and therefore suffers the same causative effects so beautifully described by Adam Smith's "invisible hand". In other words there are certain causes and effects that observed from a distance must in fact take place. Take an economy that consumes more than it produces, by simple deductive laws of logic this economy will self destruct (US currently); another cause and effect example would be where an economy backed by fiat currency continues to print money faster than the real growth of the economy (US currently), the only logical cause and effect result will be a currency that devalues.

This I believe is where most economists, chartists and fund managers chasing short term predictions come unstuck in their analysis and pursuit of precision. They are missing an important part of the equation. Heisenberg with his Principle of Uncertainty has taught us that as we attempt to use ever more precise detail with our Newtonian based economic/finance/technical tools we are not in fact achieving greater certainty with our forecasts but in fact the opposite is true. These insights are all counter-intuitive and my interpretation is that just like with the natural sciences forecasting accuracy is more assured over a longer term (cause and effect above the subatomic level) than over a shorter (more precise subatomic) term; hence the title of this essay Uncertainty in Certainty. Yes we know with certainty how things will end in general terms, the problem remains that as we try and predict how things will unfold in the short term we are introducing Heisenberg's Principle of Uncertainty, and our certainty diminishes as we become more specific.

To conclude this does not mean that I believe we cannot make better than random short term forecasts, rather I believe that as ones predictions move to a micro level the uncertainty factor increases, it is a law of nature, and therefore one needs to ensure that our money management processes compensate for this uncertainty.

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