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The Case for Long Volatility:

I have an active imagination. A blessing and curse. I'm not alone. Of our many defining features, imagination is the greatest single thing separating us from other creatures. There is no higher power. Our ability to conceive of a tomorrow that is better than today is a precondition to discovery, invention. And these two things quite naturally stack, compound. Their summation has lifted us from the Stone Age to the space station. The journey has only just begun. This should be obvious to everyone but the most hopeless pessimist.

Along our upward trajectory are periodic interruptions. Some are natural, such as plagues. Others are economic, particularly depressions. But most are political, and the greatest arise when nations imagine future states of the world that are different and incompatible. These ideological conflicts can be devastating, lasting for years as hot or cold wars, but even so, they have barely restrained our rise. The motive force of humanity's imagination, ambition, and drive to build better lives for our children is such that nothing has suppressed progress for long.

Economically speaking, our ascent is defined by rising productivity, the spoils of which determine prosperity. In modern times, we have imagined various ways to distribute this wealth; socialism, communism, free-market capitalism. I can imagine other approaches; the Chinese are exploring one. But even within existing constructs, there are nuances. Today in the West, capital owners collect a disproportionate share of profits relative to laborers. There is no intrinsic reason that this degree of inequality cannot persist. But in modern history it never has.

The private sector overwhelmingly sees itself as a more capable steward of research and development capital than governments. However, an examination of innovations traceable to state-funded initiatives during the past century suggests otherwise. I suspect the failure of Soviet communism led western free-market capitalists to imagine every element of our system to be superior. I imagine someday we will regard that black and white conclusion as foolish. China's unprecedented economic rise and breathtaking technological advances should prompt Western self-reflection. So far it has not. I can imagine this being forced upon us.

In fact, I can imagine many things. I can imagine almost everything, except of course, things that never cross my mind. Those are unknown unknowns, Black Swans. In my lifetime, not a single such creature has reversed human progress, let alone markets. Not for long anyway. Lehman was not a Black Swan. I worked there for seven years and we spent most of them imagining the firm abruptly failing. Black Swans are generally magnificent, indistinguishable from magic - the internet, smartphones, cloud computing, quantum entanglement. The big risks are skewed to the upside, and manifest frequently. That is why we no longer live in caves. Yet periodically, our imaginations run wild with visions of cataclysms. I imagine that will never change.

In theory, investors compound savings at a rate commensurate with the upward slope of human progress. But people can pay anything they choose for assets and their derivatives. They periodically earn higher returns than that slope would indicate by bidding up prices far in advance of actual growth. However, they cannot do so forever without the gap between today's reality and tomorrow's promise becoming a chasm, prone to collapse. That said, almost any price



can be justified if the slope of progress steepens, and every so often, something new appears that allows investors to imagine it will. But in modern history it never really has.

This leads me to investing. Which is principally about medium to long-term trend following. To obsess over much shorter time horizons is to imagine you can consistently outsmart people who imagine themselves smarter than you. A quick check on the number of billionaires who made their fortunes imagining such nonsense will tell you all you need to know on that topic. Anyhow, trend following is theoretically easy; over the long-term conditions improve. But because we base asset prices partly on their future value, and as every solvent investor imagines that trajectory to be upward, prices are almost always elevated relative to today's reality - and thus prone to corrections. So trend following is easier said than done, and can be improved upon by periodic tactical adjustments, hedges.

With that in mind, it is hard to overstate the extraordinary nature of today's landscape. All previous periods of extreme asset valuation required investors to imagine a vastly different tomorrow, a wildly optimistic future, a steeper slope. But today they expect the opposite. Due to unfavorable demographics and over-indebtedness, investors expect the slope to flatten, perhaps forever. Yet because of this flattening, they also imagine perpetually low interest rates, which they then use to justify extreme valuations across other asset classes in an endogenous loop that is increasingly disconnected from the real economy. This is the dominant pricing model for global assets today. I can imagine it continuing for a while still, but not in perpetuity.

Implied volatility is the price that connects two sets of people; those seeking to offload risks and those prepared to shoulder them. When imaginations are running wild, implied volatility is high, reflecting disagreement and uncertainty about what those risks are, and/or how they will resolve themselves. Low implied volatility reflects just the opposite. We are now at historic lows.

To sell implied volatility at current levels, investors must imagine tomorrow will be virtually identical to today. They must imagine that bond yields won't rise despite every major central bank looking to hike interest rates and exit QE. They must imagine that economies at or near full employment will not create inflation; that GDP will neither accelerate nor decelerate; that governments will tolerate historic levels of income inequality despite citizens voting for the opposite; that strongly rising global debts will be supported by decelerating global growth. And volatility sellers must imagine that nine years into a bull market, amplified by a proliferation of complex volatility-selling strategies and passive ETFs with liquidity mismatches, that we will dodge a destabilizing shock to market infrastructure. I can imagine a few of those things happening, but neither sustainably nor simultaneously. It is much easier to imagine a tomorrow that looks different from today.

Investment banks and asset managers devise creative strategies to make money once valuations exceed reasonable levels. These perpetual prosperity machines typically combine leverage and alchemy, transforming real risk into perceived safety. Examples abound. But in this cycle, a proliferation of cleverly disguised volatility-selling strategies has dominated. Zero interest rates and quantitative easing left yield-starved investors with few ways to achieve their target returns. Wall Street's engineers developed many wonderful solutions to this problem. Their magnificence is matched only by the amount of negative convexity now lurking in investment portfolios.



As volatility declined, investors have had to sell even more of it to sustain sufficient profits. This selling reinforces the trend lower, which produces an illusion that legacy volatility shorts are less risky today than yesterday. Lower volatility thus begets lower volatility. And this also ensures that quantitative models reduce overall portfolio risk estimates, which allows (and in many cases forces) investors to buy more assets at prevailing prices. This in turn reduces volatility, reflexively. Naturally, the reverse is also true. Rising volatility begets rising volatility. And given the unprecedented volatility-selling in this cycle, I can imagine a historic reversal.

And at that point, investor imaginations will run rampant with visions of cataclysms. It is always thus, it is who we are. Confidence in a tomorrow that is indistinguishable from today will vanish, replaced by some new hysteria. It could be real or imagined. It could even be a bullish blow-off mania like 1999. Or maybe an endogenous crash, like 1987, when market moves were disconnected from the real economy. But the catalyst doesn't really matter. What matters is recognizing that at this late stage, with implied volatility where it is, and asset valuations where they are, if you can imagine a tomorrow even modestly different from today, you must begin finding thoughtful ways to get long volatility.

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