The AMBACHTSHEER Letter
Sustainable Pension Design • Effective Pension Management

AUGUST 2019

RETHINKING INVESTMENT RISK:

WHY WE NEED TO GO BEYOND 'VOLATILITY'

"Economists have been happy to adopt the assumption that in a world of radical uncertainty, people optimize by maximizing expected utility, and that the resulting 'small world' models have direct application to policies in the real world."

"Risk-averse people are reluctant to move outside their comfort zone…..they seek certainty in a world of radical uncertainty by trying to limit themselves to a stationary 'small world' framework."

"Risk in a world of radical uncertainty is the failure of a projected narrative, derived from realistic expectations, to unfold as envisaged."

John Kay and Mervyn King
From their book "*Radical Uncertainty*"
Forthcoming, March 2020

A Radical Conversation

I was lucky to sit beside John Kay at the recent May meeting of the CFA Institute's 'Future of Finance' Advisory Council. His reputation as one of the world's deep thinkers on finance and investment matters is well-earned.[i] John spoke about a book titled "Radical Uncertainty" he is co-authoring with another recognized deep thinker, former Bank of England Governor Mervyn King. As he described the essence of the book's messages, they sounded very similar to my own as set out, for example, in last **September's *Letter*** titled "Short-Term vs. Long-Term Investment Risk: Really Understanding the Difference".

On that *Letter*, John commented "Mervyn and I come to the same conclusions in a more iconoclastic style". I asked John if he could share drafts of some of the book chapters already written. Graciously, he sent me three. The quotes above come from those chapters, indeed written in a more iconoclastic style than I use in my *Letters*. The Kay-King (K-K) message is clear: by using the 'small world' models of portfolio theory, return volatility, the efficient markets hypothesis, and utility maximization, asset owners (as well as their advisors and even regulators) effectively side-step addressing the longer-term investment reality of what they call 'radical uncertainty'. Arguably, in doing so, asset owners are failing to live up to the fiduciary duties they owe asset beneficiaries.

This *Letter* explores the asset owner implications of investing in a world of radical uncertainty.

On the Relevance of 'Volatility'

K-K define 'small world' contexts as those where possible outcomes can be fully described through known probability distributions. Coin-flipping is an obvious example. Return-generation processes from distributions with known parameters (e.g., expected returns, return volatilities and co-variances) are another example. Further, if we also know investor preferences trading off expected return and return volatility, then 'optimal' investment strategies can be determined.

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The implication is that return volatility is a key risk metric in 'small world' contexts. For example, if absolute certainty is required of meeting a specific return target over a specific investment horizon, a risk -free investment is one that has zero return volatility with respect to the horizon end date. Over short investment horizons, volatility metrics based on historical data are reasonable proxies for estimating how 'risky' any investment is in the sense of providing an estimate of how much it might underperform the risk-free investment over that short horizon. However, logically, the longer the investment horizon stretches, the less relevant and useful this 'small world' risk framing becomes. Warren Buffett put it more bluntly: "…..volatility is almost universally used as a proxy for [long-term] risk. Though this pedagogic assumption makes for easy teaching, it is dead wrong."

'Radical Uncertainty' – Some History

K-K are not the first to make a clear distinction between what they call 'radical uncertainty' and 'small world risk' with its volatility proxy. Frank Knight's 1921 article "Risk, Uncertainty, and Profit" is usually cited as the origin of understanding the need to distinguish between uncertainty and 'small world' risk. He defined uncertainty as "the possibility of alternative outcomes in an economic system whose probabilities are not capable of measurement". He went on to argue that successful decision-making in such environments required good judgment, an "unequally-distributed ability" in society. Ergo, decision-making based on superior judgment capabilities will lead to superior economic outcomes in environments characterized by economic uncertainty.

William Bernstein also made an important contribution to the need to clearly distinguish between risk and uncertainty in his 2013 book "Deep Risk". In it he asserts that "short-term volatility is a lousy measure of the actual long-term perils facing real world investors". He calls this volatility 'shallow risk', representing a temporary drop in asset prices. What long-term investors really should worry about is 'deep risk', which is an irretrievable loss of capital (through extended periods of inflation, deflation, confiscation, or devastation) that will not be recovered for decades, if ever. However, Bernstein acknowledges the human frailty problem. Logic is one thing, our emotional responses to a booming (buy!) or crashing (sell!) stock market is another.

So how can we best differentiate the concept of 'radical uncertainty' from the 'small/shallow' volatility world of classical finance and investment theory as a practical matter? In past *Letters* we have used a narrative approach which dissected the last 100 years into seven sequential 'stories' starting with the post WWI 'Roaring 1920s', transitioning to the 'Dirty 1930s/Fateful 1940s', then Pax Americana I, followed by the Scary 1970s, which became Pax America II, which in turn became the Double Bubble Blues 2000s, and then the current Mature Capitalism era in which we have arguably lived since 2010.

So What Happens Next?

One honest answer is: 'we don't know'. K-K suggest a more helpful answer is to pose another question: 'what is going on here?' and to construct a 'reference narrative' based on a realistic answer to that question. Doing so leads to their powerful definition of risk in a long-horizon context: <u>the failure of the reference narrative to unfold as projected</u>.

So what might such a realistic 'reference narrative' look like today? Here is one for your consideration:

- The Mature Capitalism story (i.e., modest economic growth, low inflation, low interest rates) continues to unfold more or less intact for another decade or even longer, as threats to functional global governance and to the earth's ecosystem continue to be manageable.
- However, corporate profitability growth will moderate as market forces and legislative/ regulatory initiatives address its sources (e.g., barriers to entry, increasing returns to scale, excess returns to monopoly capital, reductions in corporate tax rates, reductions in labour bargaining power).[ii]

- At the same time, earnings valuations will stop rising so as to maintain a reasonable equity risk premium expectation over bond yields. There is the additional possibility that 'new economy' equities whose valuations depend largely on outsized future earnings growth expectations (e.g., Amazon, Apple, Google, Facebook, Netflix, Uber, Tesla, cannabis companies, etc.) will become more conservatively valued as the noted legislative/regulatory initiatives to curb their monopolistic tendencies take hold.
- Quantitatively, long-term U.S TIPS offer an almost 1% real return today. What about the return on a portfolio of 'normal' equity-oriented portfolio investment today? (i.e., a portfolio of profitable public and private markets investments returning profits to investors[iii] well-diversified across geography and industries. Using the Gordon Model (R=Y+G), a reasonable real return expectation on such a portfolio might be R=3%+1.5%=4.5%. This might compare to a 'high growth' portfolio at R=0%+4.5%=4.5%, suggesting there may be no extra risk premium for leveraged 'high growth' equities today.

So how should investors feel today about owning such a 'normal' equity-oriented portfolio with an expected real return of 4.5% versus 1% on long-term TIPS? Is a prospective 3.5%/yr. risk premium sufficient?

What Could Go Wrong?

A prospective 3.5%/yr. risk premium represents a material wealth-creating opportunity if it is in fact realized. Over the last almost-100yrs., there were only two extended periods where equities materially under-performed bonds: 1. The Dirty 1930s/Fateful 1940s, and 2. The Double Bubble Blues (DBB) 2000s. In the first instance, a dysfunctional world first sleepwalked into an extended economic depression, and then into a massively-destructive world war. On the positive side, the experience led to new institutional arrangements (e.g., UN, NATO, BIS, IMF) to ensure that terrible almost 20yr. experience would never happen again. Very differently, the source of the DBB negative risk premium of the 2000s was 'irrational exuberance', with investors driving first dot.com and then sub-prime mortgage investment valuations to unsustainable extremes. In both cases panic selling followed, leading to serious financial system imbalances. On the positive side, the post-WWII institutional arrangements went into action to re-establish financial stability post-2009.

Looking forward now, what could derail the 'Mature Capitalism Continues' narrative set out above in the one or two decades that lie ahead? Three possibilities are:

- 'Irrational Exuberance' re-appears: with plenty of financial firepower left, investors continue to project very high growth rates for the now-familiar list of large 'new economy' companies and also for the not-so-familiar list of smaller ones now being IPOed. Eventually, a replay of the DBB story of the 2000s results.
- Climate Change Impacts are materially worse than expected: despite mitigation efforts, climate change impacts worsen: rising carbon/methane emissions, loss of sea ice/rising sea levels, falling bio diversity, increasing droughts/fires, falling soil productivity, and rising environmental toxicity. This results in rising rates of property destruction, deteriorating air/ water quality, falling crop yields in the face of growing food demand, and rising migration pressures from high-impact/low adaptation areas to lower-impact/higher adaptation areas. These events represent both material capital destruction risks and investment opportunities.[iv]
- Political Governance dysfunction worsens materially: the emerging national and international conflicts related to finance and trade, to people migration, to wealth and income distribution, and to liberal democracy vs. authoritarianism worsen. These developments impede economic growth and returns on capital. At the same time, the world looks like a riskier place, further depressing the prices of equity-oriented investments.

How do we transform all this into a coherent asset owner investment policy?

Radical Uncertainty and 'Real World' Investment Policies

A first logical priority is to establish a fund's likely need to sell assets to meet payment obligations, as having to sell long-term assets to fund short-term liabilities is a situation to be avoided. Consider two Cases: 1. The fund will be at least cash-flow neutral on a cash investment income plus new contributions in vs. payments out basis for decades into the future, 2. The fund will need to sell assets to meet its payment obligations in the years and decades ahead.

In both Cases 1 and 2 the questions become: given our 'reference narrative' today, and given the three 'derail' possibilities set out, what should be our investment policy today, and how might it change if any one (or some combination) of the three 'derail' possibilities become more likely? The difference is that in Case 1, a close to 100% equities-oriented investment policy continues to be a legitimate policy possibility, while in Case 2 nearer-term payment obligations should be matched with close to risk-free, liquid assets.

In conclusion, this reframing of how long-term investors should approach the investment policy question does not lead to the kind of neat 'right answer' that falls out of the traditional portfolio theory, volatility, efficient markets, utility-maximizing 'small world' framework many asset owners, their advisors, and regulators continue to use today. While the 'radical uncertainty' approach is less tidy and more messy, it offers a far more realistic and prudent route to setting investment policy in the real world for asset owner organizations that have the skills and courage to use it.[v]

Keith Ambachtsheer

Endnotes:

i. *John Kay was the inaugural Chair of the CFA Institute's 'Future of Finance' Council. He authored the widely-read and cited Kay Review in 2012 titled "Review of UK Equity Markets and Long-Term Decision-Making". Among his many honours and accomplishments, he was the first Dean of Oxford U's Said Business School.*

ii. *See Woody Brock's May 2019 Profile #168 for an in-depth discussion of today's corporate profitability dynamics.*

iii. *Ideally through cash payments such as dividends, rents, royalties.....the Share Buy-Back phenomenon confounds matters....we treat SBBs as part of Y in the Gordon Model. Long-term investors with payout obligations should make it clear to investee corporations they prefer cash payments.*

iv. *See Jeremy Grantham's August 2018 paper "The Race of our Lives Revisited" for an in-depth discussion of possible climate change impacts.*

v. *As a personal endorsement, the combination of the 'radical uncertainty' framework and the Gordon Model kept the KPA pension fund 100% in a 'normal' equity-oriented portfolio through Pax Americana II, 50-50 equity-bonds through the DBB decade, and back to a 100% 'climate change-friendly' equity-oriented portfolio in the Mature Capitalism decade so far……the portfolio's current Y of 4% pays a lot of bills.*

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416.925.7525. www.kpa-advisory.com