The AMBACHTSHEER Letter

Sustainable Pension Design • Effective Pension Management

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GRAPPLING WITH AN UNKNOWABLE FUTURE:

STATISTICS OR STORIES?

"It is widely believed that while stocks are very risky in the short-run, in the long-run they are far less risky and are sure to outperform risk-free investments such as government bonds. This belief is a dangerous fallacy."

Prof. Zvi Bodie, Boston University

"Knight and Keynes lost the battle to put radical uncertainty at the heart of economic analysis…. so instead, organizations are run with reliance on models which claim knowledge of the future that we do not have."

Prof. John Kay, Oxford University
Prof. Mervyn King, Cambridge University

"We keep expecting things like the economy, the environment, and our birthrates to fix themselves, and go back to 'normal'. But it is increasingly clear that what we thought was 'normal' was actually anomalous. The only remaining question is what happens next."

Prof. Andrew Potter, McGill University

Statistics or Stories?

Prof. Bodie's quote comes from his forthcoming article in the *Journal of Retirement Management* titled "Wishful Thinking about the Risk of Stocks in the Long-Run: Consequences for DC and DB Retirement Plans". His argument is a standard one for academics whose investment beliefs are based on the Efficient Markets Hypothesis (EMH), the Capital Asset Pricing Model (CAPM), and Modern Portfolio Theory (MPT). A critical assumption in this framework is that the short-term return volatility of the equity market portfolio is known, and that it can be used to make probabilistic asset shortfall projections for long investment horizons.

Profs. Kay and King (K-K) challenge that key assumption in their recent book "Radical Uncertainty". They argue that by using the statistics-based 'small world' models such as the EMH, CAPM, and MPT, 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.

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 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 poor 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 real loss of capital that will not be recovered for decades, if ever, through extended periods of inflation, deflation, confiscation, or devastation. 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? Past *Letters* have used a narrative approach which dissected the last 100 years into seven sequential 'stories' starting with the post WWI 'Roaring 1920s', transitioning to '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. **Last month's *Letter*** on strategy updated the unfolding 'Mature Capitalism' story.

Enter Prof. Andrew Potter[i]

Prof. Potter's little (119 pages) book "On Decline" is hot off the press and provides important new perspectives to broaden the 'Mature Capitalism' story. Its subtitle "Why Every Year Is the Worst One Ever" offers fair warning about where the author takes the story line. In summary:

- 'Decline' means an ongoing series of socio-economic disruptions and recoveries, with each disruption a little worse…and each recovery a little less robust….
- Why? Because we are running up against capacity limits in addressing our socio-economic problems….
- These capacity limits have two dimensions: 1. Living Standards/Technological, and 2. Political/ Cultural.
- In the 1st dimension, he notes that we have exploded from agrarian to high living standard

societies in a mere 200 years….and now we are facing multiple planetary limits that require effective collective action solutions…

- In the 2nd dimension, effective collective action solutions are becoming increasingly difficult to create in a zero-sum politico-cultural milieu with a shrinking liberal-democratic middle flanked by growing 'tribes' on the alt-right and the woke-left….leading to rising populism, identity politics, and culture wars.
- This changing social make-up can be explained by growing nostalgia for the 'good old days', instant continuous networked communications, and a resulting shift from reasoned System 2 'slow' thinking that fosters co-operation and mutual accommodation….to emotional, reactionary System 1 'fast' thinking that fosters discord and tribalism.[ii]

In short, Prof. Potter asserts we are becoming a society increasingly unable to confront and rationally address the problems facing us.

Does he leave us with any hope after all this? What happens next in his narrative? Well, that is up to us. We can stay on the global 'Decline' path so graphically described in his book. Or we can work together to envision a 'New Normal' for the 21st Century….and work together to achieve it.[iii]

Revisiting Business Strategy for Pension Organizations

This *Letter* started out posing the 'statistics or stories?' question as the basis for developing business strategy for pension organizations. Kay, King, and Potter make strong cases for the 'stories' answer. Stories based on our understanding of past and present socio-economic realities offer the best hope for visualizing possible futures to 2030 and beyond. Further, the 'story' approach recognizes that the future is not predetermined, but can be influenced by collective action. This is an important message as we approach COP26 and organize multiple collective actions to achieve global Net-Zero GHG emissions by 2050…..and to repeat, pension organizations have important leadership roles to play in realizing this ambition.

Just as the 'statistics or stories' question must be addressed at the macro socio-economic level, so it must be at the micro individual investment level. Last month's *Letter* noted that investing retirement savings must proceed with one investment at the time. Only this way can we assess return and business risk prospects, the embedded physical and transition risks of climate change, and progress towards the Net-Zero goal at the portfolio level. Is the requisite micro investment analysis best conducted through 'statistics or stories'?

Bartley Madden provides a powerful answer in his book "Value Creation Principles" with the long, but important subtitle "The Pragmatic Theory of the Firm Begins with Purpose and Ends with Sustainable Capitalism". At the heart of the book lies the message that just like humans, organizations too have lifecycles. Four, to be specific: 1. 'High Innovation', 2. 'Competitive Fade', 3. 'Mature', and 4. 'Failing Business Model'. Through multiple stories he shows that successful value-creating firms generate returns above the cost of capital by surviving Stage 1 and avoiding Stage 4.

One such story is about farm implement manufacturer *John Deere*. It had been a Stage 3 'Mature' corporation since the 1950s with a static product-centric business model earning a modest return on capital. In 2000, new CEO Robert Lane decided to shift *John Deere* to a new digital platform business model that inserted sensors/probes/data collection and processing capabilities into its products. This decision shifted *John Deere* back into a successful 'High Innovation' organization with a raised return on capital.[iv]

In Conclusion

In their book "Radical Uncertainty", Profs. Kay and King lamented that their predecessors Profs. Knight and Keynes had "lost the battle to put 'radical uncertainty' at the heart of economic analysis". The message of this *Letter* is that it is not too late. Yes, academics of the EMH/CAPM/MPT persuasion will continue to teach their elegant statistical 'small world' investment models in the economics and business faculties of higher education institutions around the world. But, using Bartley Madden's life-cycle structure, the EMH/CAPM/MPT investment model no longer fits into the 'High Innovation' category. It is at best 'Mature', with a distinct possibility that it will soon slip into 'Failing' territory.

The future of macro and micro economics and finance belongs to the story tellers. Andrew Potter's 'On Decline' story is depressing, but serves as an important call to collective action on a number of fronts (e.g., climate change). Bartley Madden's *John Deere* story is uplifting, and serves as an equally important call to action (e.g., corporate engagement to avoid failing business models).

At the end of his book, Andrew Potter quotes Sarah Conor in the *Terminator* movie telling her son: "The future has not been written. There is no fate but what we make for ourselves."

So be it.

Keith Ambachtsheer

<u>*Endnotes*</u>

i. *Andrew Potter is not your typical academic. He is an Associate Professor at the Max Bell School of Public Policy at McGill University. He is a former journalist, including in the positions of Editor-in-Chief of the Ottawa Citizen and public affairs columnist for McLean's Magazine.*

ii. *Potter acknowledges the contributions of Nobel Laureate Daniel Kahneman to this framing of human behavior.*

iii. *For such a positive collective action vision see William A. MacDonald's book "Might Nature Be Canadian? Essays on Mutual Accommodation". He argues that in contrast to many national stories, Canada's 150-year story was built on mutual accommodation rather civil war, or internal physical conflict of any kind. The result is that Canada regularly scores high in international country surveys of citizen satisfaction/happiness. A jarring exception to this mutual accommodation story is the long historical relationship between Canada's Indigenous Peoples and the European newcomers and their descendants. It was only on September 30 of this year that the historical injustices suffered by First Nations people were formally recognized in a National Day of Truth and Reconciliation. Long overdue!*

iv. *The John Deere story makes for an interesting contrast with what is going on in the equity markets today. A raft of money-losing 'High Innovation' companies are being launched or acquired with seemingly rich valuations (e.g., Uber, Spotify, DoorDash, Peloton, Snap, Slack Technologies, AfterPay, WeWork, GFL Environmental, and many more). In aggregate, the global funding of startups has increased from $60B in Q2 2020 to $160B in Q2 2021. No doubt, some of these money-losing ventures will eventually become profitable companies, with sustainable business models. Others will not. At the same time, many profitable companies that are already in the 'Mature' stage of their lifecycle seem to be reasonably priced in relation to real long bond yields of 0%. For example, the Price/Earnings ratios and dividend yields of John Deere, Pfizer, and Unilever are 20x, 19X, and 22x.....and 1.2%, 3.6%, and 3.4% respectively. The P/Es and DivYs of Canada's top bank RBC and top telecom BCE also look attractive with respective P/Es of 12x and 20x and DivYs of 3.4% and 5.4%. Using the Gordon Model R=Y+G and a target total real return (i.e., R) of 5%, these 'blue chips' need only modest long-term real dividend growth rates (i.e., G) to generate a long-term 5% real rate of return or better.*

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