# Tigers and Ghosts: Distinguishing Between Financial Risk and Uncertainty

> *"Suppose you were told there was a tiger in the next room: you would know that you were in danger and would probably feel fear. But if you were told 'There is a ghost in the next room,' and believed it, you would feel, indeed, what is often called fear, but of a different kind."*[1]

When one is focused on financial decision-making, there is the challenge of managing future uncertainties. The goal here is to connect the historical shift from managing uncertainty to managing risk with the ultimate question of ownership. If the Christian worldview is correct, then we are resource managers and not owners. This is a profound shift as it requires understanding the desires and preferences of the owner to make improved financial decisions.

Finance being a social science is typically studied as a subfield within positive economics where one focuses on "what is." The alternative is normative economics where one focuses on "what ought to be." Based on the C. S. Lewis quote above, the subtle differences between risk and uncertainty are explored within the context of different kinds of fear. Though many readers may have lost the capacity to fear ghosts, we explore how the transition from Knightian uncertainty to risk is analogous to the transition from a fear of a ghost in the next room to a fear of a tiger in that same room. By ghosts, we mean beings that dwell in the spiritual realm, such as God, angels, demons, and even the devil. The key contribution here is that this transition may in fact hold the key to making financial tools and techniques more useful than how they are currently applied.

To further understand the challenges surrounding managing future uncertainties, consider the following exchange during the February 12, 2002, Department of Defense news briefing with Secretary of Defense Donald H. Rumsfeld regarding military and humanitarian efforts in Afghanistan after the attack of September 11, 2001 (Q denotes a question from an unnamed reporter):

> *"Q: Could I follow up, Mr. Secretary, on what you just said, please? In regard to Iraq weapons of mass destruction and terrorists, is there any evidence to indicate that Iraq has attempted to or is willing to supply terrorists with weapons of mass destruction? Because there are reports that there is no evidence of a direct link between Baghdad and some of these terrorist organizations.*
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> *Rumsfeld: Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns -- the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tend to be the difficult ones."*[2]

As Rumsfeld notes, the difficult to manage category is unknown unknowns. When we pretend to have transitioned to known unknowns, we have pretended that the ghost in the next room is now a somewhat predictable tiger. There remains a ghost in the next room that must be addressed to successfully make financial decisions.

Frank Knight in his widely cited 1921 economics book contrasts uncertainty with risk. After a lengthy discussion on the nature of knowledge, he summarizes, "To preserve the distinction which has been drawn … between the measurable uncertainty and an unmeasurable one we may use the term 'risk' to designate the former and the term 'uncertainty' for the latter. … The practical difference between the two categories, risk and uncertainty, is that in the former the distribution of the outcome in a group of instances is known (either through calculation a priori or from statistics of past experience), while in the case of uncertainty this is not

[1] C. S. Lewis, *The Problem of Pain*, (New York, NY: The Macmillan Company), 1962, p. 17.

[2] See https://web.archive.org/web/20160406235718/http://archive.defense.gov/Transcripts/Transcript.aspx?TranscriptID=2636. Note that the reporters asking questions were not clearly identified.

true, the reason being in general that it is impossible to form a group of instances, because the situation dealt with is in a high degree unique."[3]

In modern terminology, with risk we can enumerate the possible future outcomes as well as the corresponding probability of each outcome. In Rumsfeld vernacular, risk is categorized as the known unknowns. Practically, risk is typically expressed in very objective terms, for example, rolling a six sided fair die. Although the potential outcomes are known, the specific outcome of the next roll is unknown.

With uncertainty something cannot be enumerated, either future outcomes, the corresponding probabilities, or both. In Rumsfeld vernacular, uncertainty is categorized as the unknown unknowns. Here we seek to align risk with a tiger in the next room (known unknowns) and uncertainty with a ghost in the next room (unknown unknowns). Here even the potential outcomes, their likelihoods, or both, are unknown.

Knight's contribution to economic flourishing has been significant, leading to tremendous enhancements to both financial valuation and financial management. One example is the phenomenal insights gained in option valuation theory illustrated with the Black, Scholes, Merton option valuation model that emerged in publications in 1973. The pivot from uncertainty to risk provides a significant key to unlocking the challenges of option valuation and a host of financial risk management tasks. But latent within these advanced valuation models and management techniques, is a haunting reality.

In books and other training materials related to financial risk management, what is not communicated is Knight's philosophical foundation. When describing degrees of knowledge, Knight observes, "It is a world of change in which we live, and a world of uncertainty. We live only by knowing *something* about the future; while the problems of life, or of conduct at least, arise from the fact that we know so little."[4]

Prior to Knights' delineation of risk and uncertainty, he sketches his summary of the theory of knowledge. In his lengthy footnote 1 of Chapter 7 (The Meaning of Risk and Uncertainty), he notes, "It will be evident that the doctrine expounded is a functional or pragmatic view, with some reservations. By way of further 'reservation' we should point out that the tone of the discussion merely results from the fact that it is the function of consciousness and knowledge in relation to conduct that we are interested in, for present purposes, and the text must not be taken as expressing any view whatever as to the ultimate nature of reality or any other philosophic position. The writer is in fact a radical empiricist in logic, which is to say, as far as theoretical reasoning is concerned, an agnostic on all questions beyond the fairly immediate facts of experience."[5]

Thus, Knight seeks to be "pragmatic" and desires not to take "any view whatever as to the ultimate nature of reality." Knight fails to see that his desire to avoid questions of reality results in negating critical features contained therein related to financial decision making. Knight does admit that he is a "radical empiricist" and seems to embrace naturalism. Moreland and Craig note that naturalism is "physicalist in flavor ... reality is exhausted by the spatiotemporal world of physical objects accessible in some way to the senses and embraced by our best scientific theories."[6] When interpreting the spatiotemporal world of physical objects around us, Knight asserts, "We *perceive* the world before we react to it, and we react not to what we perceive, but always to what we *infer*."[7]

As an aside, Bernstein when providing background on Knight's life notes, "Despite his early exposure to religion and his continuing study of religion throughout his life, Knight was an implacable enemy of everything to do with organized forms of religion. … He once said that religion was responsible for his bad sleeping habits: 'It's that damned religion. I just can't get it out of my mind.'"[8] Although converting real

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[3]Frank H. Knight, *Risk, Uncertainty, and Profit*, (New York, NY: Sentry Press, 1921 (first printing, 1957 reprint quoted)), p. 233.
[4]See Knight (1921), op. cit., p. 199.
[5]See Knight (1921), op. cit., p. 200-201, footnote 1.
[6]J.P. Moreland and William Lane Craig, *Philosophical Foundations for a Christian Worldview*, IVP Academic, Downers Grove, IL, 2003, p. 184.
[7]See Knight (1921), op. cit., p. 201.
[8]Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (New York, NY: John Wiley & Sons, Inc., 1996), p. 218.

future uncertainty to artificial notions of risk removed the reality of ghosts from Knight's economic framework, it seems Knight did not get rid of them.

If naturalism is true, upon what basis should we trust our inferences? Plantinga (2011) thoroughly addresses this logical problem in *Where the Conflict Really Lies: Science, Religion, & Naturalism*. He asserts and then rigorously defends the following claim: "There is superficial conflict but deep concord between science and theistic religion, but superficial concord and deep conflict between science and naturalism."[9]

Based on Knight's radical empiricism, he comes to a startling but false conclusion, "We have, then, our dogma which is the presupposition of knowledge, in this form; that the world is made up of *things*, which, *under the same circumstances*, always *behave in the same way*." (Italics in the original.)[10] But should we have this haunting belief that Knight and other naturalist are missing the most critical insights? Theistic religions and in particular Christianity acknowledge the existence of ghosts, all of whom it is rational to fear. One consequence of embracing Knight's worldview is the jettisoning of anything metaphysical, such as ghosts.

Peter Bernstein's in *Against the Gods: The Remarkable Story of Risk* argues, "The revolutionary idea that defines the boundary between modern times and the past is the mastery of risk: the notion that the future is more than a whim of the gods and that men and women are not passive before nature. … Like Prometheus, they [a group of thinkers like Knight] defied the gods and probed the darkness in search of the light that converted the future from an enemy into an opportunity."[11] It is interesting to note that Bernstein's book cover is Rembrandt's famous Jesus in the Storm painting where the disciples are facing a fierce storm, but Jesus is asleep in the boat. I believe this is intentional. Rather than illustrating darkness, Jesus asserted that He is the light of the world.[12]

Thus, Bernstein starts with a false presupposition that Christianity was in darkness and light came once men and women were unshackled from it. The opposite is a more rational position. Jürgen Habermas, when summarizing the West's philosophical foundations concludes, "Universalistic egalitarianism, from which sprang the ideals of freedom and a collective life in solidarity, the autonomous conduct of life and emancipation, the individual morality of conscience, human rights and democracy, is the direct legacy of the Judaic ethic of justice and the Christian ethic of love. This legacy, substantially unchanged, has been the object of continual critical appropriation and reinterpretation. To this day, there is no alternative to it. And in light of the current challenges of a postnational constellation, we continue to draw on the substance of this heritage. Everything else is just idle postmodern talk."[13] Emancipating light indeed came directly from the "Judaic ethic of justice and the Christian ethic of love."

For the intellectually honest within the finance profession, it is easily admitted that we know so very little regarding the future. Remember that finance falls within the social sciences and not the natural sciences. The one who controls the future seems to lob outcomes our way that fall outside of typically enumerated potential outcomes. As Nassim Taleb notes, "history teaches us that things that never happened before do happen."[14]

If Knight's worldview is correct, then professional portfolio managers may be expected to outperform passive index funds. There are very few testable finance assertions with such overwhelming evidence that favors the dominance of passive index funds over active management-based funds. One authoritative source

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[9]See Alvin Plantinga, Where the Conflict Really Lies: Science, Religion, and Naturalism, Oxford University Press, Oxford, England, 2011, Preface ix.

[10]See Knight (1921), op. cit., p. 204.

[11]Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (New York, NY: John Wiley & Sons, Inc., 1996), p. 1.

[12]The New Testament authors widely referenced light when quoting Jesus and his teachings. See, for example, John 8:12, John 12:34-36, and 1 Peter 2:9. See also Psalm 27:1, Psalm 36:9, and Isaiah 9:2 from the Old Testament.

[13]Jürgen Habermas, *Time of Transitions*, Polity Press, 2006, pp. 150-151, a translation of an interview from 1999.

[14]Nassim Taleb, *Fooled by Randomness*, p. 108.

for conducting this analysis is the semi-annual S&P Indices versus Active (SPIVA) scorecards.[15] Based on the SPIVA data, Langley, a Wall Street Journal reporter, notes, "Over the long run, few funds manage to beat their benchmarks. Over the 20 years through June [2022], only about 5% of large-cap U.S. funds beat the S&P 500, according to the S&P report. Just staying in business was an accomplishment, with about 26% of the funds surviving over that time."[16] Given the massive profits available to active managers who can somewhat predict future stock prices, we would expected within naturalism there would be a significant portion of active managers who would seize on Knight's assertion that "the world is made up of *things*, which, *under the same circumstances*, always *behave in the same way*," and build profitable portfolios.[17] The abundance of evidence suggests that even with incredible AI-driven computing, predicting future financial outcomes will remain elusive.

Going forward perhaps may require us to take a step back from naturalism in general and Knight's transition from uncertainty to risk. One consequence of naturalism and its atheistic foundation is the denial of evil. One clear and present uncertainty is evil actions of tyrants. Alistair Begg highlights Reinhold Niebuhr's profound insights into the mindset of tyrants, "The twentieth-century theologian Reinhold Niebuhr, in his book, *The Nature and Destiny of Man*, suggests that modern political tyranny may be traced to a darkly conscious realization of the insecurity of man's existence; the excesses and atrocities of people in power may speak to the fact that, in their deepest hearts, they're not really in control of anything at all. We can still see that insecurity manifested on the world stage today."[18] If there is more to this life than what is offered by naturalism, there is reason to be both optimistic as well as unsettled to say the least.

Warren T. Brookes, a Harvard trained economist, addresses the raw naturalism economic viewpoint of Knight. Brookes asserts, "Our economic future is not now and never has been tied to the physical assets we now see, but to the vast untapped potential of creative thinking—the metaphysical process which can show us entirely new reserves and new and easier ways of doing things, extending value and increasing wealth without depleting our planet."[19] From Brookes' perspective, there are reasons to be excited and optimistic given the obvious amazing creativity of humans.

Brookes identifies the battle between two economic perspectives: "Since economic thought first became formalized over two centuries ago, there have been essentially two different views about wealth. One view, first defined by Adam Smith and Jean-Baptiste Say, is that wealth is primarily metaphysical, the result of ideas, imagination, innovation, and individual creativity, and is therefore, relatively speaking, unlimited, susceptible to great growth and development. The other, espoused by Thomas Malthus and Karl Marx, contends that wealth is essentially and primarily physical, and therefore ultimately finite. The modern presentation of this view argues that since usable energy is steadily diminishing into entropy, all wealth is really cost to be shared more equitably."[20]

From the Judeo-Christian perspective, wrestling with risk and uncertainty comes down to the question of ownership. If William Ernest Henley, the author of the poem *Invictus*, is correct, then we are the masters of our fate and the captain of our souls. In response to Henley's Invictus, Dorothy Day wrote *Conquered* where she concludes that "Christ is the master of my fate! Christ is the author of my soul!"[21] Clearly, Henley and Day cannot both be right. The Bible is both consistent and clear: God is both creator and sustainer of the universe and hence the owner. Psalm 24:1-2 asserts that the earth and those contained therein are His possession. Thus, not only are there ghosts in the next room, but God himself is present in every room.

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[15]For starters, see https://www.spglobal.com/spdji/en/documents/education/education-spiva-scorecards-an-overview.pdf.
[16]See Karen Langley, "Almost Half of Stock Pickers Beat the Market in Early 2022 Selloff," *Wall Street Journal*, September 15, 2022, online.
[17]See Knight (1921), op. cit., p. 204. Again, italics in the original.
[18]See Alistair Begg, *Brave By Faith: God-Sized Confidence in a Post-Christian World*, The Good Book Company, 2021, p. 33.
[19]Warren T. Brookes, *The Economy in Mind* (NY: Universe Books, 1982), p. 36. See also https://en.wikipedia.org/wiki/Warren_T._Brookes.
[20]Warren T. Brookes, *The Economy in Mind* (NY: Universe Books, 1982), p. 12.
[21]See https://www.desiringgod.org/articles/invictus-redeemed.

***Psalms 24:1-2***

> *[1]The earth is the Lord's and the fullness thereof, the world and those who dwell therein, [2]for he has founded it upon the seas and established it upon the rivers.* (ESV)

The Christian perspective, expressed in James, specifically addresses future uncertainties as they apply to financial transactions. James 4:13-17 squarely challenges naturalism and the transition of life's uncertainties to Knightian risk. This transition clearly seeks to sanitize all the ghosts from the house. One may believe sincerely that the ghosts are gone, but they are still here.

***James 4:13-17***

> *[13]Come now, you who say, "Today or tomorrow we will go into such and such a town and spend a year there and trade and make a profit"— [14]yet you do not know what tomorrow will bring. What is your life? For you are a mist that appears for a little time and then vanishes. [15]Instead you ought to say, "If the Lord wills, we will live and do this or that." [16]As it is, you boast in your arrogance. All such boasting is evil. [17]So whoever knows the right thing to do and fails to do it, for him it is sin. (ESV)*

Regardless of scientific advancements, such as artificial intelligence, the future remains haunting due to our own sin. As Paul notes, "for all have sinned and fall short of the glory of God" and "… the wages of sin is death, but the free gift of God is eternal life in Christ Jesus our Lord."[22] From the Christian worldview, absent peace with God through Jesus Christ, the pursuit of financial security is an oxymoron. No amount of money in the bank will provide security from our pending appointment with death and its consequences.

With this shift in mind, the popular view driven approach to managing financial uncertainty falls short as the owner's preferences are disregarded. What the Federal Reserve Bank does or who wins an election would no longer be the dominant focus. The less popular but extremely effective approach is termed needs driven. The focus is on the divine owner's (as well as the temporal stakeholders) needs. For example, most people purchase automobile insurance or homeowners' insurance from the needs driven perspective. That is, you do not try to determine whether you will have a car accident this month before purchasing automobile insurance. The decision to bear financial uncertainties would be based more on the ability to withstand the exposure as opposed to one's prediction of the likelihood that it occurs.

Although not expounded here, the Christian worldview at minimum addresses:

- Admission of the reality of untamable economic uncertainty.
- The divinely created, super abundant, and durable earth simply needs managing.
- The task is managing God-given resources, not ultimately owning them.
- Taming one's yearnings at minimum within one's earnings.
- Avoid excessive use of leverage if used at all.
- Labor is seen in its creative capacity, not mundane toil.
- Joy of diligence over the distress brought about due to sloth.
- Wisdom of seeking counsel, not arrogantly going one's own way.
- Strive for contentment, not seeking to fulfillment of all desires.

Improved financial decision making is found in the ancient concepts of divine wisdom and understanding. As Job concludes, "And he [God] said to man, 'Behold, the fear of the Lord, that is wisdom, and to turn away from evil is understanding.'"[23] We assert that financial tools and techniques are more effectively and efficiently implemented when applied within the Christian worldview that acknowledges God as the ultimate owner and His moral law as non-negotiable. From this perspective, we are resource managers and not

[22]Romans 3:23 and Romans 6:23, English Standard Version.
[23]Job 28:28, Old Testament, English Standard Version.

owners. We conclude that this profound shift requires understanding the desires and preferences of the owner that form the basis of improved financial decision making.

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