

# Fooled by Randomness: The Hidden Role of Chance in the Markets and in Life<sup>1</sup>

Nassim Nicholas Taleb

Fooled by Randomness is a non-technical book by Nassim Nicholas Taleb that describes imperfection of human knowledge. It uses narrative style to explain how people misunderstand the role of randomness and seek explanations of chance phenomena. The book has two main themes: 1) The rare event and 2) random events.

The author, Nassim Nicholas Taleb is a *Lebanese American* essayist, scholar and statistician. Taleb has an MBA from Wharton and a PhD from the University of Paris. His earlier book "The Black Swan" was described in a review by the Sunday Times as one of the twelve most influential books since World War II.<sup>2</sup>

It is probably just a coincidence that this book was launched at roughly around the same time as the September 11 attacks; *a rare event*, which cost USA billions of dollars. Taleb, at that time was stressing that one must not ignore the possibility of outlying events, things that happen only rarely. As even though they are rare, such events have a significant impact on our lives.

The book begins with Taleb's personal life experiences, describing that we are living in environments where *random events* happen all the time. To understand the system we always need to assign probabilities to these random events. The problem is that system is very complex which makes difficult for common traders to assign probabilities to these random events. The problem gets worse when people try to seek order in randomness and, using this order, make decisions emotionally. For example people read and observe a few randomly selected winners, who overstate their success and attribute it to their skill, and try to adopt the same dangerous path. In this sense, they all get "Fooled by Randomness." Taleb believes that basic probabilistic reasoning can protect people from this problem.

This book tries to approach these matters and highlights the following issues:

1. Trading, unlike normal professions, depends a lot on randomly selected states. In a large group of traders, a chance of few traders being consistently successful over a period of multiple years is very high. However, these traders are no better than randomly selected darts. Taleb calls these randomly selected traders, lucky fools, as

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<sup>2</sup> The Fortune has also selected "Fooled by Randomness" as one of the smartest 75 books known.

they do not bear even a slightest suspicion of being neither lucky nor foolish. They act as intellectuals and behave as risk lovers. They fail to predict the rare event which certainly happens sooner or later. Nevertheless when concealed rare events suddenly reveal they blow up. There are many ways of being fooled by randomness. One is to fail to predict the rare event. Nothing can be more certain than that the unexpected will happen sooner or later but people forget to allow for it.

2. Taleb emphasizes not to judge quality of decisions solely on the outcomes but by the cost of alternative histories (i.e., if the history played out in a different way). For example, if two people play a game in which one puts a revolver containing one bullet in one of the six available chambers, to another's head and pulls the trigger. If the man survives, the gunman will give him tons of money. One can consider each realization as history. Note that five histories are unobservable. If luckily the man survives, one may guess their success as skill or decisiveness; however the possibility of a player's survival over a long period of time is very slim. For counting purposes US\$10 million earned from Russian roulette and performing numerous eye surgeries are the same as buying the same amount of goods and services. However, deep down, they are qualitatively different. In everyday trading, the actual nature of the activity is more obscure as one only sees wealth being generated but not the underlying process. Things become more ambiguous because they cannot observe losers as they are no more on the page.
3. Alternative histories are abstracts as they have not happened however their study (Monte Carlo) gives better understanding of an event.
4. We are living in random environments where most noteworthy future events are not predictable. One can learn this lesson from September 11 attacks or 1998 Russian bond market meltdown. Traders, nevertheless, do not learn. They reject the possibility of occurrence of such unpleasant events again, and only keep an eye on past trading records and investment performance and continue taking risks which usually end up with disasters.

*(This book is written on a very complex and technical subject however the writer tries to balance the subject matter by making it understandable to the lay-person while also providing scientific support for his arguments. Some of the technical terms discussed in the book include Ergodicity, stationarity and noise-to-signal ratio.)*

5. In his book, Taleb, introduces the concept of Ergodicity which roughly means that under certain conditions, very large sample paths end up resembling each other. In more simple words history which, in the long run, unveils most of its scenarios, propels skilled but unsuccessful people to eventually rise where as lucky fools push back to less lucky idiots.
6. Round the clock, we are receiving raw information from media and internet. They have their own agendas. Unfortunately we are absorbing this raw information

without purifying it. The problem gets further aggravated as we react against this non-distilled information. This behavior makes the market, to some extent, inefficient which causes undue swings in prices. There is a dire need to use first hand information for developing better understanding of market happenings. Especially in finance, one should not confuse noise with signals. Taleb goes on to discuss the difference between noise and significant information. Daily market commentary or performance review may not necessarily give signals (e.g., market moved up 50 points as government pledges to improve law and order situation) but this noise can affect perceptions in the short-term period. Hence, Taleb, suggests to avoid short-term performance-based decisions and stresses to take smart steps to cut off noise.

7. People take past history as a single homogeneous sample and believe that past patterns will persist in the future. This concept is known as stationarity. But, as most economists believe, if agents were rational then their rationality would cause them to adapt to past patterns. Hence the past information which is completely absorbed by the system becomes irrelevant for predicting future patterns. Rather than using history as a forecasting tool, Taleb believes that one must learn from history in general (e.g., things that have never happened before can and do happen).
8. Science should not to be taken as seriously as it sounds. Naive and unstructured empiricism, absence of logical structure to one's inference and rush for publications most often appear in the conclusions which are extremely damaging. Taleb emphasizes that data should be used to disprove a proposition rather than to prove one. For example a statement: *The market never goes down 20 percent in a given three month period*, can be tested but cannot be verified. This statement does not say that the market will never go down 20 percent in the future.

Overall, this book creates a compelling call for action on rare and random events by understanding of probabilities, randomness, deductive science, investor psychology, alternative histories, emotional decisions, etc. It explains very difficult topics like Ergodicity, Stationarity, inductive or deductive reasoning, etc., in simple layman language which is the strength of this book. However, this book does not explain financial or trade strategies on how to invest in random environment. Rather it is more like a manual on how to think.

Surely, there are some weaknesses in the book. Taleb tried to prove the axiom that randomness rules the market in the long run with examples (method of exposition). But he neither uses actual events or statistics. He merely invents stories to expound on his points. This axiom is against general wisdom and must be disproved by a scientific approach. Secondly, the tone of the author is rough. He probably thinks most of the traders, scientists, journalists, TV anchors, etc., are stupid and have wasted their lives. Taleb constantly reminds the reader that everybody else is a fool and it is just him who has the insight and the tools to master probability. Nassim Taleb's book is highly personal which occasionally makes it irritating.