

Note that my experience with people is that some get the concept when expressed in words but get confused by graphs (as it is a completely different mapping), and vice versa. So I advise the reader who is not graphically oriented to skip the next figures.

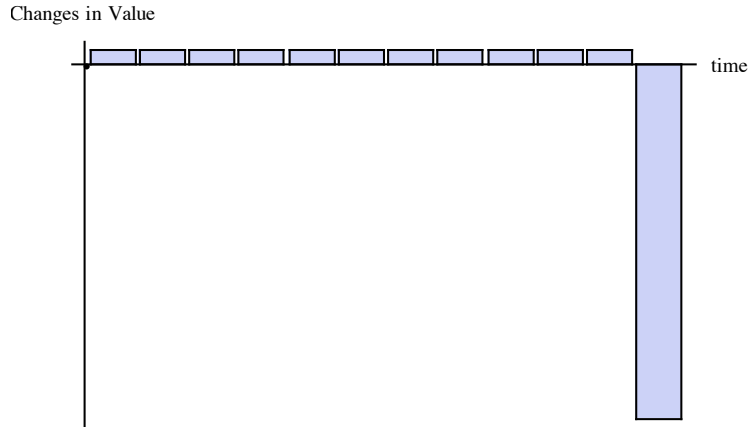


Figure 1 Fragile variations through time —the horizontal axis shows time. This can apply to anything, a health indicator, changes in wealth, your happiness, etc. We can see small (or no) benefits most of the time and occasional large adverse outcomes. Uncertainty can hit in a rather hard way. Notice that the loss can occur at any time and exceed the previous cumulative gains.

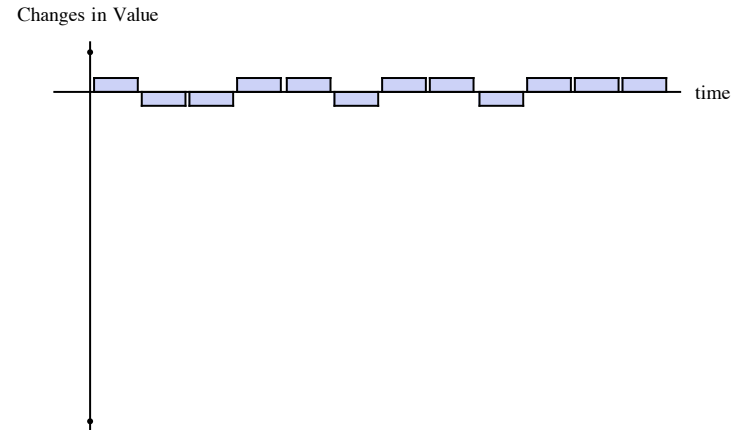


Figure 2- the Robust- It experiences small or no variations through time

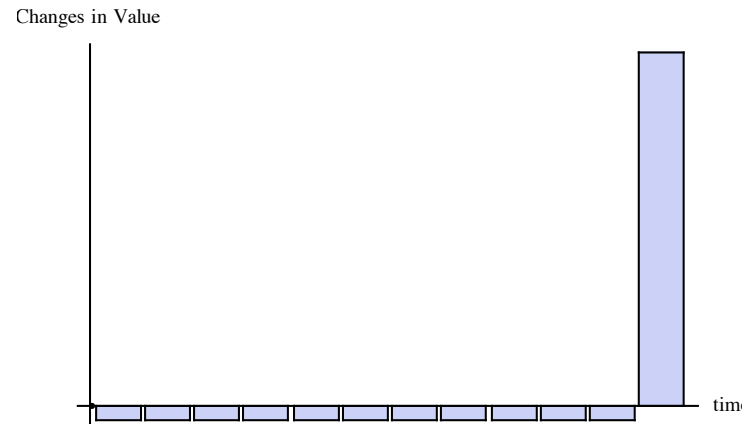


Figure 3 The antifragile system: uncertainty benefits a lot more than it hurts—the opposite of Figure 1.

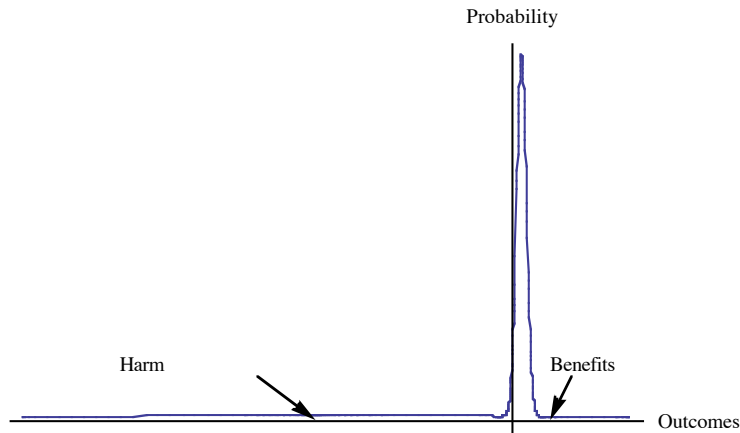


Figure 4 **The Fragile**: the Horizontal line presents outcomes, the vertical one their probability (i.e., their frequency), with zero (or the initial at the intersection of the two axes). We see large improbable downside (often hidden and ignored), small upside. There is a possibility of a severe unfavorable outcome (left), much more than a hugely favorable one, as the left side is thicker than the right one.

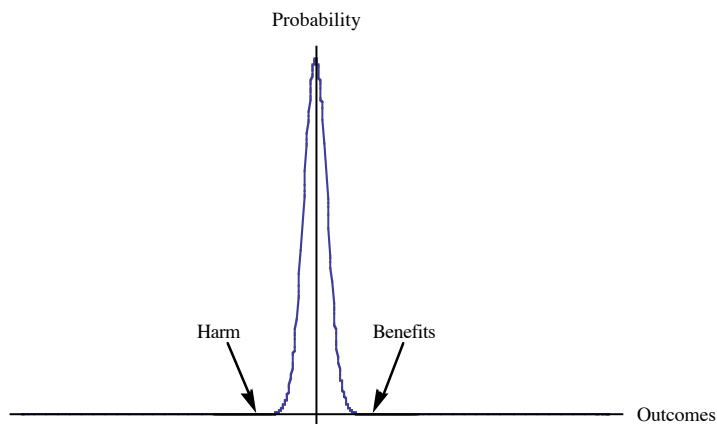


Figure 5- **The Robust**: small positive and negative outcomes.

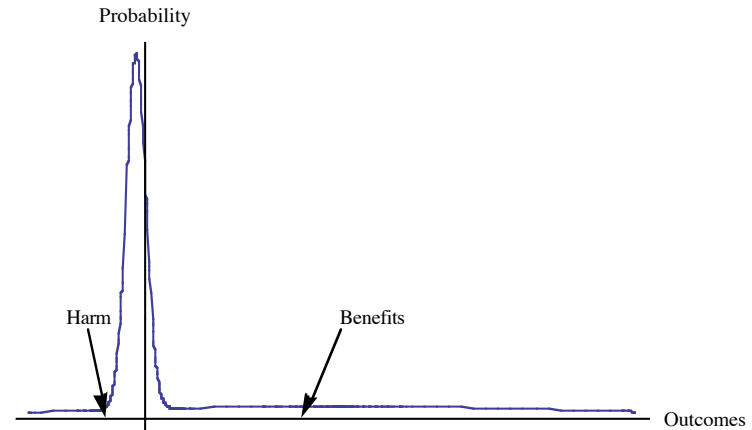


Figure 6 **The Antifragile**: large upside, small downside. Large favorable outcomes are possible, large unfavorable ones less so (if not impossible). The right “tail”, for favorable outcomes, is larger than the left one.

And of course the robust has no large downside, but no particularly large upside either. My definition of fragile is therefore, simply: has a worst negative outcomes than positive ones (that, is, a left tail as in Figure 4); the bigger the discrepancy between the two types of outcomes, the more fragile****.

Families of Dualities

There are family resemblances between a series of dualities that I will line up to the main central idea of this book, the fragile vs. antifragile, or flow from it. These dualities are a) rational against empirical, b) sucker against nonsucker, c) top-down against bottom up systems, d) explicit against tacit knowledge, e) technological

**** More technically, fragility is negative skewness, antifragility positive skewness.