

# Of risk, fences, and unavoidable falls.\*

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Rule 1 of Risk Management: it is when you finally feel safe that you are not.

We live in exceptional times, in which what was considered the norm is no longer the norm. On the markets we can observe negative interest rates, and central banks are implementing monetary policies never seen before. Giant companies like Lehman Brothers disappear in a heartbeat, while new ones emerge with an app. Everyday we give up some personal liberty, and our privacy, in the hope to protect ourselves from terrorism.

As observed by philosopher Giorgio Agamben [1], we live in a continuous “state of exception”, in an *Ausnahmezustand* according to another scholar, Carl Schmitt [5]. Exceptional situations, or at least perceived as such, make Governments suspend, repeal or amend the current legislation, proposing new restrictive rules, new constraints, with the alleged primary goal of solving the problem. In the face of some events, we feel lost, we are afraid, and we lose our traditional reference points. It is exactly then that politicians take the opportunity to grant us some new feeling of safety, to bring things back to order. And to expand their power.

The number of examples is large and growing. We can recall the *Patriot Act* in the US, after 9/11, recently partially amended by the *Freedom Act*, echoed by several laws that have been approved in Europe in the last few years, up to the famous state of emergency declared in France. And in the financial world, after the 2008 and 2012 crises, we can cite the long overwhelming sequence of rules created by the Basel Committee on Banking Supervision, collected under the name of Basel II and III, whose goal is to regulate the existence of banks

and financial institutions, in order to reduce both the idiosyncratic (at the bank level) and the systemic (at the economy level) risk of losses and defaults.

Basel rules, whose number of pages is greatly larger than that of the Bible and the Quran stacked together, are a clear example of the excess of regulations we are experiencing today. Regulations aiming at reducing risk, at giving us safety and efficient markets, but that, everyday, are showing their true face. They are a problematic burden, an often useless cost, a heavy lid over a pan with boiling water, with steam and pressure mounting, up to the final explosion. A driver, not a cure, for systemic risk.

How may rules conceived to fight risk actually increase risk? The best answer is given by what I like to call the *fence paradox*, which shows how some protections, some rules, only give a false sense of safety, while actually hiding risk, also modifying our risk perception.

Have a look at Figure 1, box A, where two friends are just on the edge of a canyon, looking down at the end of the precipice. We can imagine they are in Arizona, and they look down to admire the beautiful Colorado river turning red because of the colored sands you can find over there. Unfortunately, to profit from such a beautiful view, you have to lean out and risk.

The two friends have different attitudes. Lehman is a risk taker, he is bold, and he does not want to get his new t-shirt dirty. He feels safe on his legs: nothing bad can happen! John is different, very cautious, Lehman calls him a coward, as he does not like risks. He feels safer if he lies down on his belly and just leans out with his head.

Unfortunately—the reason is unknown to us, maybe a headache or a distraction—Lehman loses balance and falls down. In box B we see the tragedy happening.

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\*This article is partially based on the translation of a piece I wrote for the Italian blog Piano Inclinato: <http://www.pianoinclinato.it/ringhiera-paradosso/>

When you take risks, negative consequences are always around the corner, it is unavoidable. Risk is indeed defined as the probability or threat of a negative occurrence, caused by external or internal vulnerabilities, which you may try to mitigate and hedge, often only partially, given the limited resources available [2]. Notice that the concept of negative occurrence is often very subjective: losing 1000 euros is probably not the same for you and Bill Gates. And also the same definition of probability may be subjective [3]—actually always is<sup>1</sup>, but we do not have the space to go into the details here.

As one of the sacred texts of Induism, the *Bhagavadgītā*, points out: risk is a human thing, there exists no human activity without risk, and there is no risk without humans. You can decide not to leave your house, to do nothing and be safe, but there is always a chance, maybe small but not null, that the roof falls down. And what would be the risk of a earthquake if nobody could get hurt? How does our risk perception about the same earthquake change, if it hits us directly, or if it happens on the opposite side of the globe?

But we do not like risk. Despite risk being an intrinsic characteristic of our existence, we would like to live without it. Authorities know that and, to avoid new tragedies, and even more to make people feel safer (remember that, in a democracy, people vote sooner or later), they build fences, as in box C of Figure 1.

Probably you do not know, but over there Lehman’s death was the first and only death by falling. A tragedy, as all deaths, but we cannot deny that Lehman had taken an excessive risk. Nobody had had a similar reckless behavior before.

In any case, the new fence looks like a success. Several tourists that were afraid of falling down and avoided the canyon are now coming in groups. The fence allows them to look down with safety. Authorities are praised for the clever decision of

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<sup>1</sup>It is not necessary to follow de Finetti’s approach to see that probability, in real life, is bound to be subjective. Probability is the way in which WE describe chance, it is our logic of the uncertain. If you choose a given definition of probability you are making a subjective choice. Moreover, assume for a second to be a “frequentist”, so that for you the probability of an event can be estimated using the relative frequency of that event in a very long series of trials. Well, unless you restrict your attention to thought experiments, the way in which you collect (and process) data can never be fully objective.

building a fence, to the point that local politicians swear they will “do whatever it takes<sup>2</sup>” to make the canyon a safe place for everyone. Better and nicer fences will be built, if necessary.

Rumors spread: the canyon is now safe! More and more tourists arrive. One day, there are so many people that the queue is extremely long. Ok, with so many people looking down, it can feel a little crowded, but there is no need to push! Everyone can enjoy the beautiful sight, leaning against the fence. If you have time, in box D there is still some little space for you to join the group.

All of a sudden, the unexpected (?) happens. In box E, because of the excessive number of people pushing, the fence breaks down, and 23 persons die. A tragedy, something never seen before. An unforeseeable extreme: a black swan<sup>3</sup>!

How can it be? What about the fence? It is the fault of the authorities! No, it was the fault of the reckless people. We need a stronger fence! No, we need to forbid any entrance to the canyon.

They felt safe. They were not.

Many rules work exactly as the fence of this little story. They give us a false sense of security. We want to avoid risk even when it is not possible, and we build fences, walls, protections.

When we see fences, we feel safe, and we tend to forget the risks fences are supposed to take care of. We start being less rational, if not irrational. Nothing bad can happen if there is a fence!

But it is exactly when we start feeling very safe that actually we are not. If we do not accept the human nature of risk, if we do not understand that risk management is meant to limit unnecessary risks, to mitigate the unavoidable ones, but not to prevent all risks, we are just preparing the next tragedy, the next crisis, the next state of exception.

Rules are needed, as we need good mathematical models to understand and try to hedge risk. But overconfidence in rules and models<sup>4</sup> is dangerous, as it is dangerous to create too many rules, which only create confusion, and are often subject to the

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<sup>2</sup>This is a secret quote. A little quiz for you.

<sup>3</sup>Unfortunately, the expression “black swan” is often misused and abused. Extremes and rare events are not always black swans. Our fence breaking down is NOT a black swan! For the correct definition, I refer to the original, important book by Nassim N. Taleb [6].

<sup>4</sup>Especially when those models are built on the improbable assumptions of normality, perfect rationality and friends.

so-called heterogony of ends, generating unintended consequences.

The best way to protect ourselves from risk is to study it, sure, but also to accept it, to understand that we always need to be cautious, because our fences may break, our models may be wrong, our rules may prove insufficient. And we do not need anything too sophisticated to bring back some old grandma's good common sense [6].

Very often, what we think is a black swan is nothing new. It was always there, in front of us, but we had it painted in white.

If you are willing to read more on this topic, I suggest the nice work by Greg Ip [4] and—if you allow me some self-promotion—my forthcoming book [7], where the fence paradox is also presented mathematically, in more rigorous terms.

## References

- [1] Giorgio Agamben (2008). *State of Exception*. Translation of the original (2005). University of Chicago Press.
- [2] Peter L. Bernstein (1996). *Against the Gods: the remarkable story of risk*. Wiley.
- [3] Donald Gillies (2000). *Philosophical Theories of Probability*. Routledge.
- [4] Greg Ip (2015). *Foolproof: why safety can be dangerous and how danger makes us safe*. Little, Brown and Company.
- [5] Carl Schmitt (2007). *The Concept of the Political*. Translation of the second edition of the original (1963). University of Chicago Press.
- [6] Nassim N. Taleb (2007). *The Black Swan: The Impact of the Highly Improbable*. Random House.
- [7] Nassim N. Taleb, Pasquale Cirillo (forthcoming). *Fat Tails: the logic and the statistics of extremes*. Penguin Books.

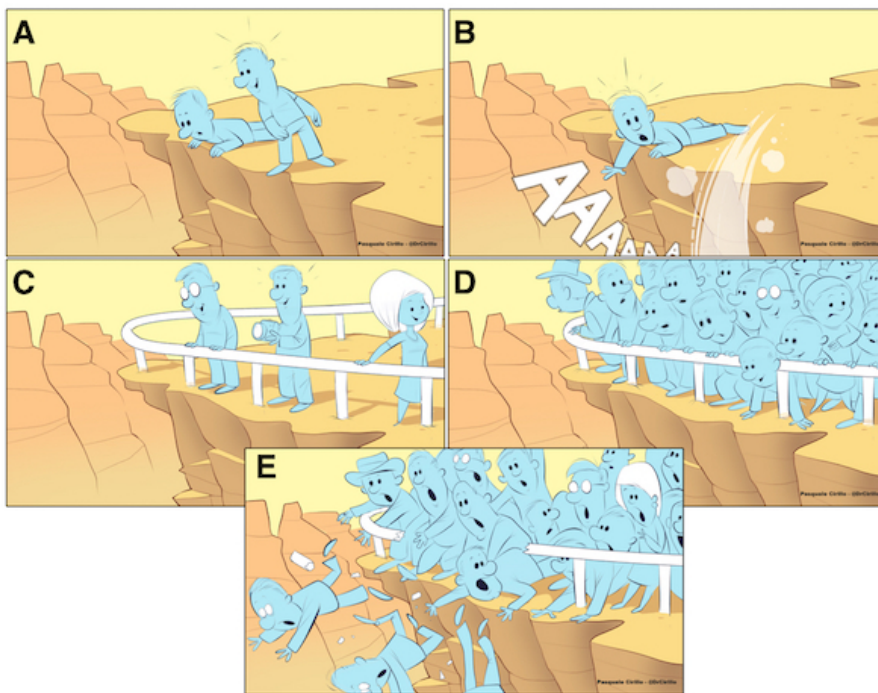


Figure 1: The fence paradox, or when fences are not as safe as you might think.