

The Dire Need for CIOs: Chief *Imagination* Officers
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An interesting trend is developing following the onset of the worst financial crisis since 1929: the rapid rise of Chief Risk Officers (CROs). In many businesses, risk management has become the equivalent of what the Chief Environmental Officers were in the 1990s: a necessity of business life. The CRO job is fairly new and I am wondering whether this function really requires a full time position and whether it should be outsourced to specialized engineering firms. I can see the value though for institutions managing money, or the ones that require tremendous amounts of hedging in a global economy. The job has been around since the year 2000, and Enron even had its own CRO before the “Enron scandal”.

One such job description from 2006 states: *“One key to success for CROs is the ability to see the range of risk variations that can crop up across the enterprise. At the AAA Inc., a mortgage insurance company in BBB, the CRO position was created in 2003 to monitor international credit-risk operations. But the position's description has since been expanded to encompass risk throughout the company, including strategic, operational, external, financial, IT and security (both data and physical) operations.”* The job seems to entail a strong familiarity with forecasting and risk modeling. The function is often associated with Enterprise Resource Management systems.

In this essay, I argue that there are good reasons why CROs and the risk models and forecasting methods which existed prior to the crisis did *not* protect these firms against the crisis and that a new breed of analyst is needed: the CIO or Chief Imagination Officer.

Black Swans and Fat Tail Distributions

One of the arguments put forth by Nicholas Nassim Taleb in his book *Black Swans* is that distribution of stocks returns have fat tails so that large losses have a greater probability of occurrence than the ones predicted by the typical Value at Risk Models. Taleb defines a black swan as follows: *“First, it is an outlier, as it lies outside the realm of regular expectations, because nothing in the past can convincingly point to its possibility. Second, it carries an extreme impact. Third, in spite of its outlier status, human nature makes us concoct explanations for its occurrence after the fact, making it explainable and predictable.”* Taleb’s point however is not that we need better models that incorporate these new types of distribution. It would be too simplistic and would not fix the underlying problem. No. Taleb is after a more nihilistic view of Finance. The world of Finance is not underpinned by scientific laws and immutable principles; it is a great big wheel of fortune. Any systematic attempt at modeling random processes in Finance is futile and the whiplash of randomness will hit you right back in the face in due time.

Taleb however, takes an interesting position as he himself alludes to his own success in profiting from these rare and conflagrating events. Intellectually, his position is untenable if it is viewed it as a claim that he has an edge in anticipating rare events. How can it be so if a priori such events are extremely rare and not predictable? More likely is that he is capitalizing on judgment biases demonstrated by market participants, who

contrary to Taleb, do not recognize that they are walking towards a cliff, staring at the edge without seeing it. Some portfolio managers have a tendency to fall prey to the *confirmation* bias, which makes them think that reality is “wrong”, when it turns against their view of the world, and are confident that reality will correct itself. Focusing too much on fat tails and black swans is also a distraction. Interestingly, along Taleb’s narrative he builds himself as an expert with the same heavy quantitative training that he finds fault with in other Finance thinkers (mostly academics). This can’t just be a case of “my training is better than yours”? While being defiant towards academics, Taleb should not hide his true skills behind “academic” credentials. I believe that his *imagination* and web-like understanding of markets and economic interactions are the clincher. Thus, while fat-tail distributions can add information, it is the correct understanding of confluences of trading and economic patterns that is primordial.

A Missing Component of Risk and Forecast Models: Imagination

From what I can surmise the actual job of the CRO is *not* to improve understanding of the *possible mechanisms* that will generate the next seismic economic event(s) affecting the firm, but rather he/she is to serve as Chicken Little. By definition of the job, the CRO must show *activity* by crying wolf at any chance he/she gets, and attempts to put a lid on risk-taking in the businesses they oversee. This bias is probably the reason why CROs did not have veto power against buying and selling financial instruments delivering “easy money” in the run-up to the crisis. It is also true that in most of the companies that were first casualties of the crisis, the risk models were ineffective and their CROs did not have privy knowledge to warn their bosses of an impending meltdown; or if they did, they weren’t listened to.

I remember in the 1970s, the buzz around Alvin Toffler who was a self-proclaimed futurist, and made a career out of it over the next 30 years. Since the 1980s, the Pentagon and CIA employ futurists (people with very big imaginations; essentially sci-fi writers) and game theorists to analyze possible geopolitical catastrophic scenarios. What is the difference between quantitative forecasting models and sci-fi? The big picture! Sci-Fi writers can create stylized brave new worlds, with all their complexity, interactivity at the social, technological and economic levels. Quantitative models are very simple minded. Even AI and game theoretical models do not have the “realistic” flavor that worlds created by the imagination have.

Recently, I have been intrigued by the work of NYU Political Science Prof. De Mesquita, who forecasts geopolitical events using a game-theoretic model. His work was used by the CIA, and seems to have a good track record of predictions based on describing a web of geopolitical interactions and conflicting interests. In the realm of international politics, De Mesquita appears to have augmented the basic game theoretic framework with more narrative and complex structure similar to building a “sci-fi” world and assigning probabilities to alternate futures. He states (in Theory Talk #31):

“The forecasting and policy engineering model I developed assumes that stakeholders on any policy issue care about two things: the outcome on the issue and the extent to which they are seen as instrumental in putting an agreement together (or blocking one). The model specifies a rather simple game and solves the game, in the process estimating how much each stakeholder values the policy outcome relative to being seen as

instrumental in shaping the outcome. It also estimates how each player perceives its relationship with each other player, what proposals players make to each other regarding resolution of the issue (including no proposal at all) on a round by round basis. The model estimates how player positions change and also updates player estimates of the willingness of others to take risks. It does quite a bit more as well. This model depends on expert inputs based on an intensive interview process that elicits who the stakeholders are who will try to influence an outcome, what outcome they currently argue for, how much persuasive clout they could bring to bear, and how salient the issue is to them compared to other issues on their plate. Experts are not asked how they think the issue will be resolved and the model frequently disagrees with the conventional wisdom on what is likely to happen.”

What Taleb calls the failure of using “narratives” as post-facto rationalization, I contrast with the possibility of enhancing economic rational models with forward-looking imagination and more complex narratives, the same way De Mesquita has done in Political Science. The CIA is currently looking to hire laid-off Wall-Street analysts. I think it is easier to teach financial and risk models than to teach people how to use their imagination and sort out complex interactions. Thus, the hiring should probably go in the other direction. A new breed of financial analysts combining imagination of future webs of market interactions with the understanding of human interactions and judgment biases, basic arbitrage strategies and the laws of asset valuation should be able to produce a very useful service and lucrative business in the next decade.

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