

Global Technical Incerto Reading Club

Session 11 – Forecasting

1 December 2022

Agenda

- **Reading Club – Details (Ron Richman) (5 min)**
- **On single point forecasts for fat-tailed variables**
- **On the Statistical Differences between Binary Forecasts and Real World Payoffs**
 - **Presented by Nassim Taleb**
 - **Comments by James Sharpe and Marcos Carreira**
- **False dichotomy alert: Improving subjective-probability estimates vs. raising awareness of systemic risk**
 - **Comments by Fergal McGovern**
- **Summary**
 - **Presented by Ron Richman**

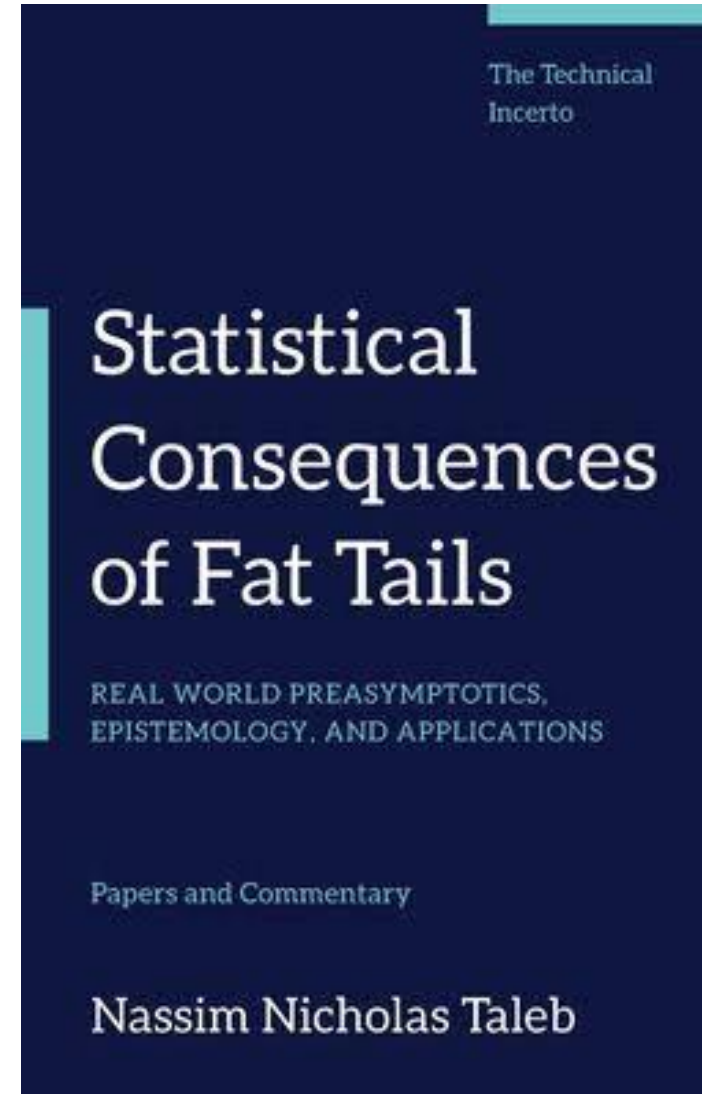
Reading Club

- **Group of people interested in learning more about Nassim Taleb's risk, statistical and finance works in the Technical Incerto.**
- **Aim to read through the first volume of this series during 2021 and beyond**
- **Statistical Consequences of Fat Tails: Real World Preasymptotics, Epistemology, and Applications**
- <https://arxiv.org/abs/2001.10488>
- **Aims:**

Benefit of large group reading together

Monthly presentation and discussion

Make code to reproduce/apply results freely available



Reading Club (2)

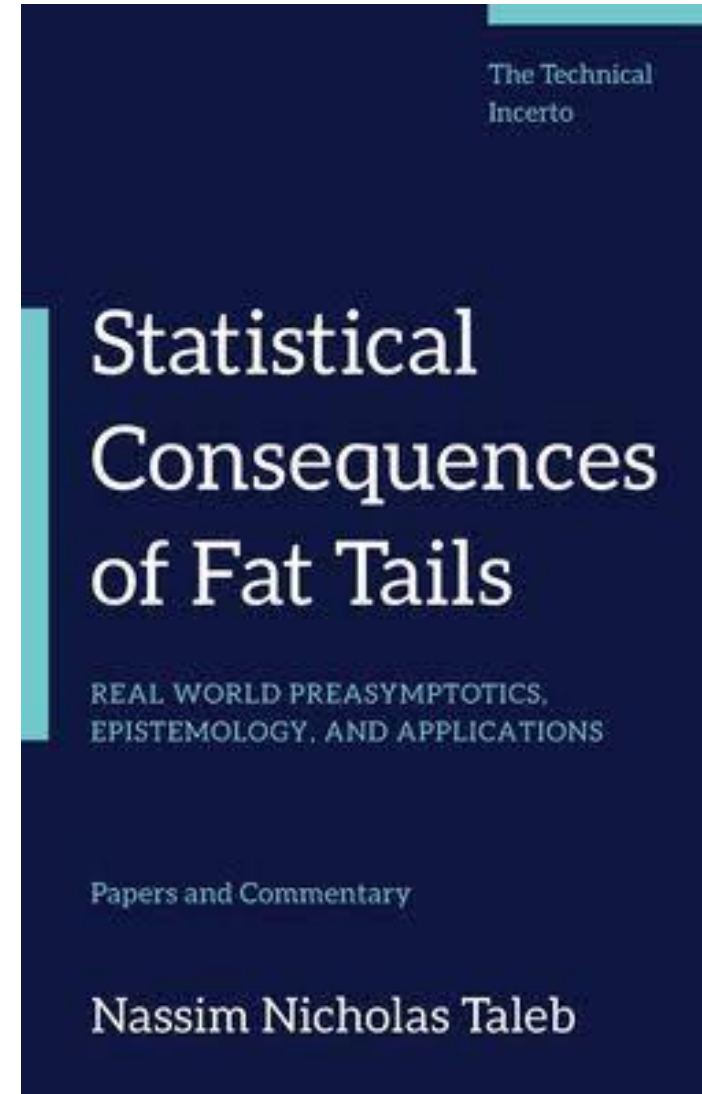
- Thank you to Jake Billings for the reading club website and [link to recordings](http://www.techincertoreadingclub.com/):

<http://www.techincertoreadingclub.com/>

- GitHub repository containing discussions and code:

<https://github.com/Technical-Incerto-Reading-Club>

- Thank you to all contributors to date



Types of probability

Empirical/Actuarial

P-Measure
 $P(Y|X); N \text{ large}$

- Many observed events
- Can reliably calculate parameters
- Mortality/Motor Insurance
- “Hedging” via law of large numbers

Risk Neutral

Q-Measure

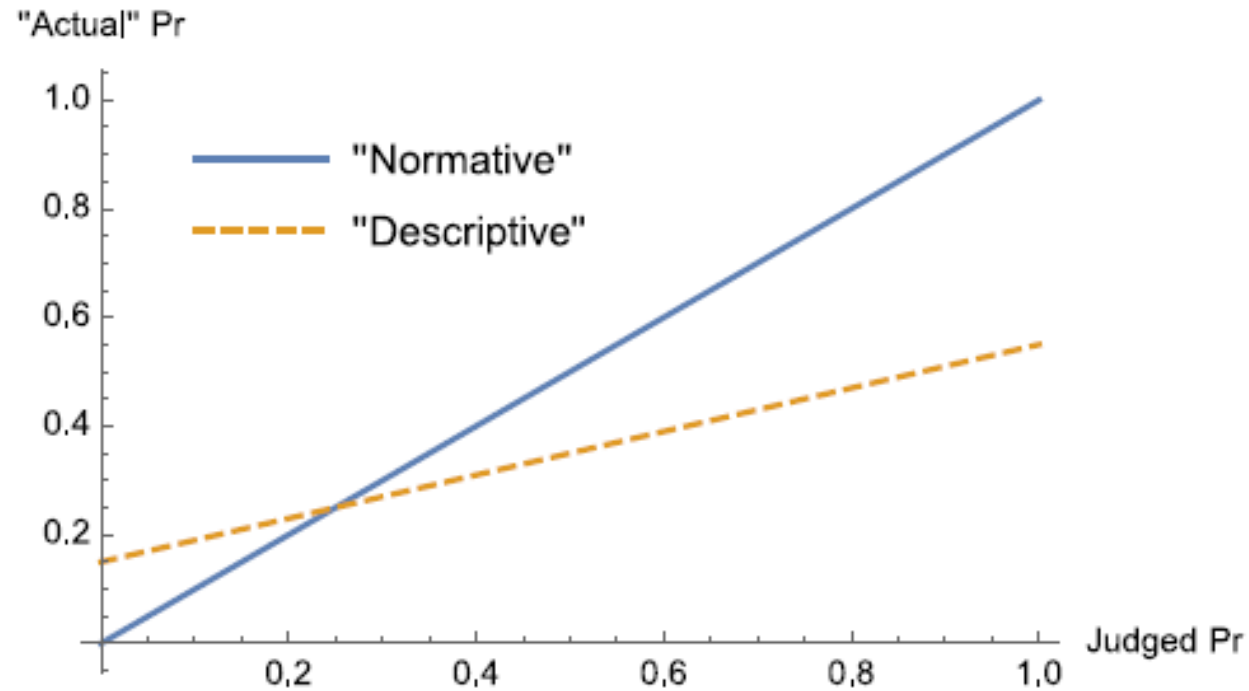
- Probabilities solved using market prices
- Do not necessarily correlate with empirical probabilities =>
- Forward looking/market price of risk
- Dynamic hedging

Single Events

P-Measure
 $N = 1$

- No observed events
- Can consider history of forecasting success

Which measure should we use?



A view from insurance

- x is not $f(x)$: Insurance edition - <https://ronaldrichman.co.za/2021/02/24/x-is-not-fx-insurance-edition/>

- Plan for the worst and hope for the best
- Rarely rely solely on forecasts/predictions
- Shape the potential risks: $f(x)$ not x
- **Mechanisms:**

Limits – maximum cover provided

Share – only accept $x\%$ of a risk

Reinsurance – pass risk onto other insurers

Terms and conditions/Exclusions

- **Limitations**

During COVID, even stable probabilities (mortality) went wrong!

	<u>Personal Lines</u>	<u>Commercial Lines + Specialty</u>
<i>Policies</i>	Motor Home owners	Commercial property Liability Aviation
<i>N</i>	Very large	Large
<i>Realm</i>	Mediocristan	Extremistan
<i>Technique</i>	Predictive models	Market Rates
<i>“Hedging”</i>	Law of large numbers	Reinsurance/ Capital Markets
<i>Risk Control</i>	Catastrophe reinsurance	Large loss protection