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# Navigating Uncertainty: Alternative Approaches to Quantifying Damages

Dr. Richard Happ; EFILA Annual Conference, 25 April 2024

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# Quantifying damages is the most underrated issue in investment arbitration

- Damages are not “valued”, as damages as have no value. They are quantified.
- A correct quantification of damages is sometimes considered an ancillary, less important issue than jurisdiction or merits.
- However, as merits and quantum case must fit together, correct quantification will be essential to present a convincing case to the Tribunal
- Best practice would be to obtain a quantum analysis before a case is started.



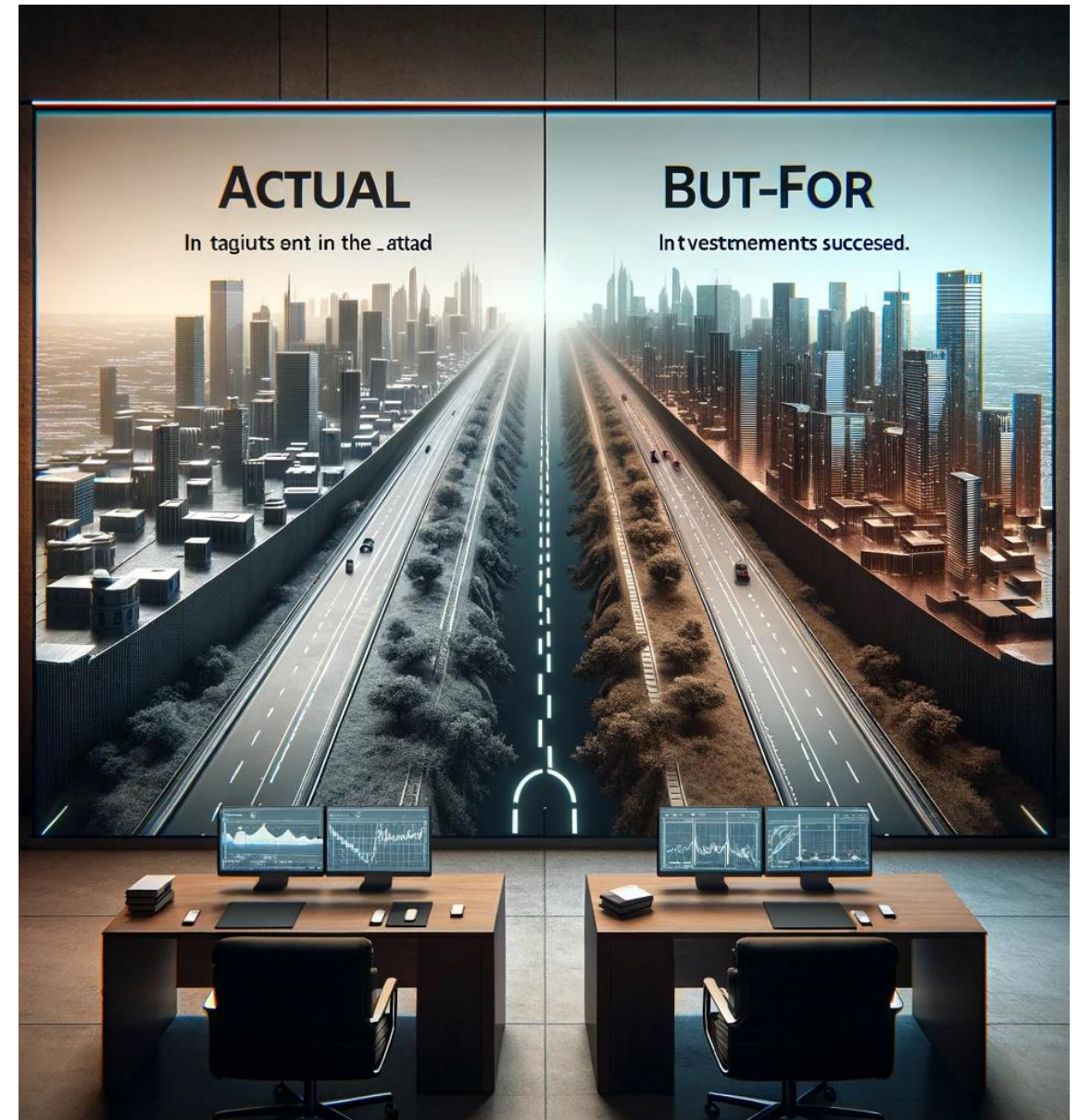
# Quantum 101

# Quantum 101: ex-ante and ex-post



# Quantum 101: comparing actual and but-for value

- “reparation must, as far as possible, wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed.” (PCIJ, Chorzow Factory)
- Compare
  - the actual market value of the investment (with the State’s unlawful act) and
  - the but-for market value (i.e. without the State’s unlawful act)
- **Difficulty**: identifying the impact of the State measure, and not taking into account other factors



# Integrating Geopolitical Risk into Valuation

# Understanding Geopolitical Risk

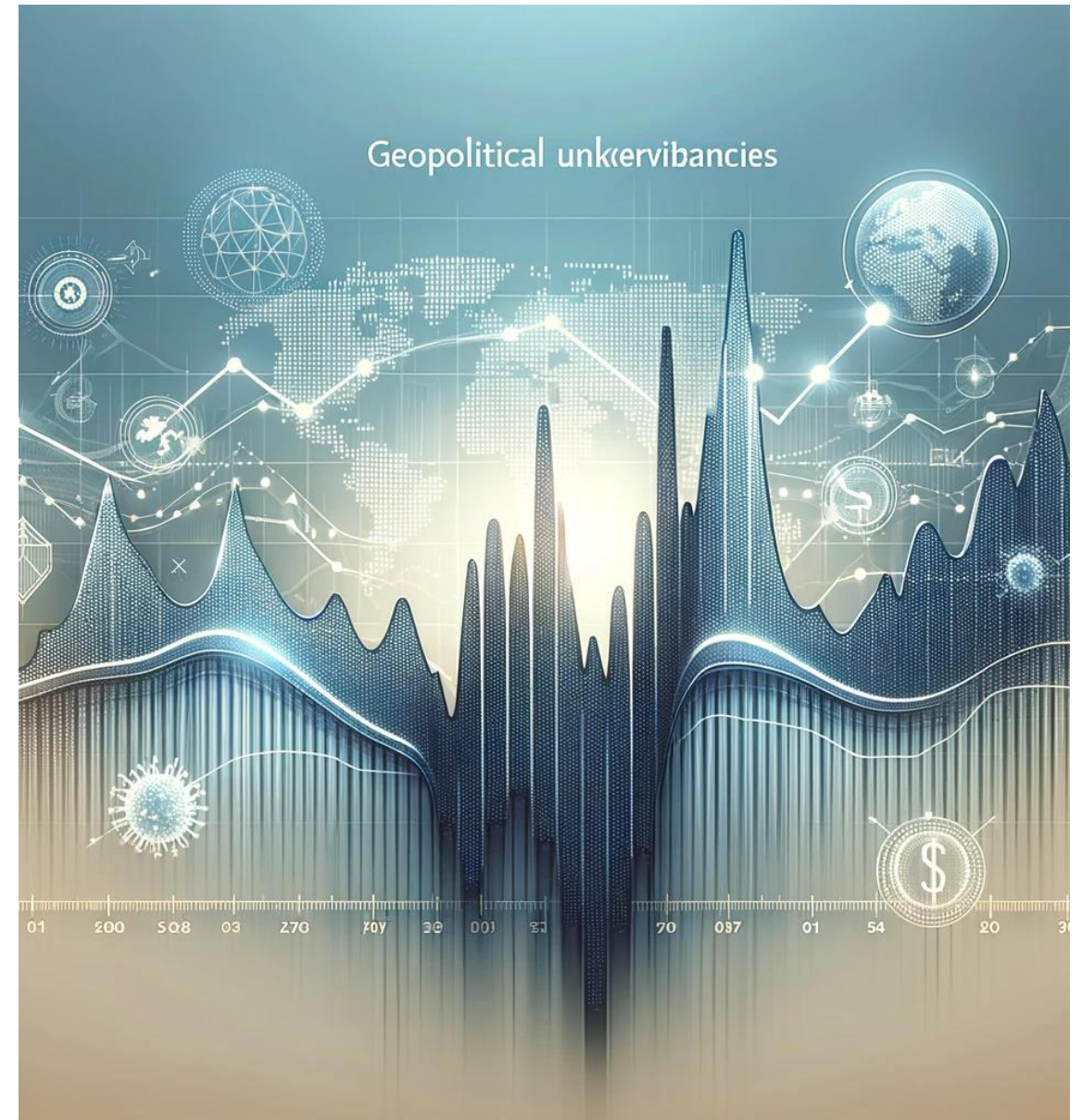
- **Geopolitical Risk:** refers to the risk associated with changes in the political, legal, and economic environment across different regions
- Commercial Impacts can be trade wars, sanctions, general volatility, supply chain disruptions
- **Sources:**
  - **Political Shifts:** Changes in government, policy, and regulations (= political risk?)
  - **Economic Policies:** Alterations in trade agreements, sanctions, and foreign investment policies.
  - **Social Instability:** Protests, strikes, and other forms of civil unrest that can impact operations and markets (=country risk?).
  - **International Relations:** Fluctuations in the relationships between countries that can lead to conflicts or alliances.





# Integrating Geopolitical Risk Assessment

- Geopolitical risks are not identical with political risks. They can occur outside of the host state
- Geopolitical risk impacts certainty of future cash flows. Part of market risk and country risk?
- To be taken into account in both actual and but-for scenario? Depends (*nullus commodum capere potest de iniuria sua propria*)
- Decisive question: what risks can be anticipated and factored in for a forward-looking valuation?



# The „Rumsfeld Matrix“ applied to Valuation

## The known knowns:

*“there are **known knowns**; there are things we know we know.”*

These are the risks and factors in a valuation that are clearly understood and quantifiable.

## The known unknowns

*“We also know there are **known unknowns**; that is to say we know there are some things we do not know.”*

These represent the elements we are aware of but cannot predict or quantify accurately.

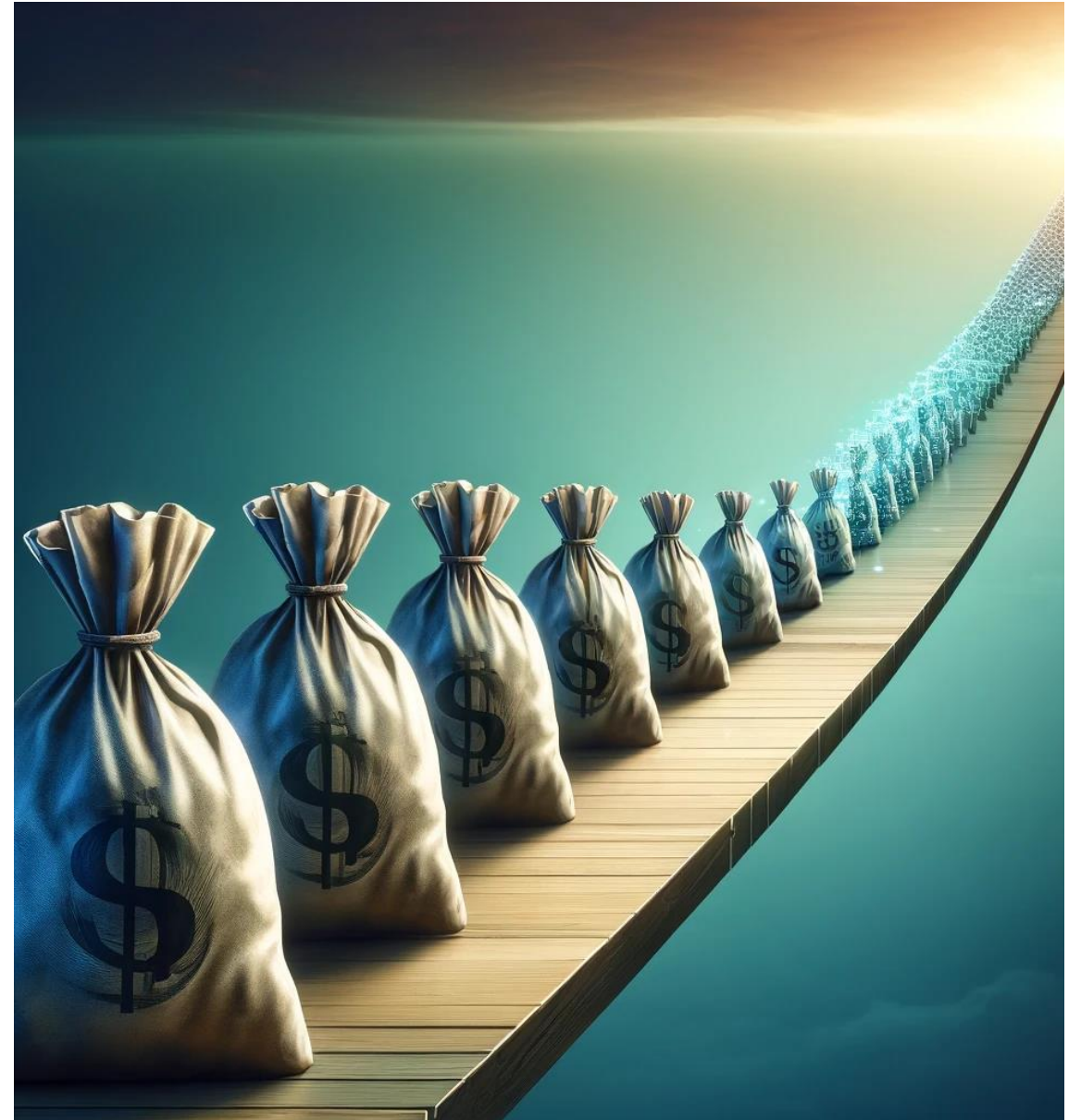
## The unknown unknowns

*But there are also **unknown unknowns**—the ones we don't know we don't know*

These are risks that are not anticipated and thus not planned for. In the context of valuation, these could be sudden geopolitical events or disruptive legal changes. **Can/should they be included in valuation? Are they part of market risk?**

# Discounted Cash Flow and Risk

- Future cash-flows need to be discounted to present value. Discount factor needs to reflect time value of money and the risk of the cash flows
- Quasi-standard: calculation of discount rate with Weighed Average Cost of Capital (WACC)
- Risk considered part of cost of equity – market risk, country risk, beta factor (the specific risk structure of investment).
- Geopolitical Risk? Would it be a known unknown? How do investors deal with it?



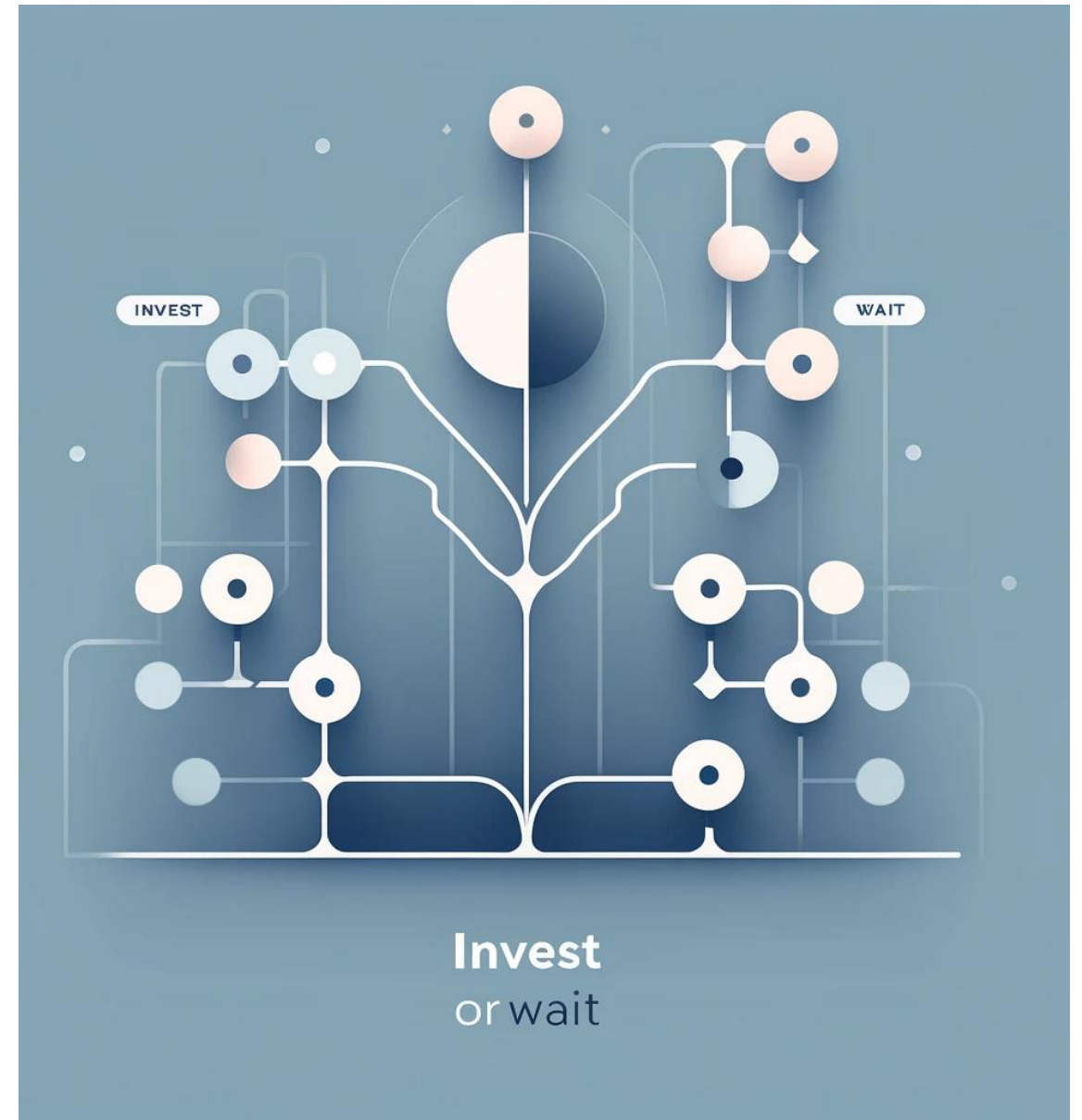
# Scenario Analysis

- **Identify Variables:** Determine key factors that influence the business or project (e.g., market demand, regulatory changes, price of oil, gas or hydrogen).
- **Develop Scenarios:** Create detailed narratives for various plausible futures (e.g., best case, worst case, most likely case).
- **Analyze Outcomes:** Evaluate the effects of each scenario on the project or business, considering both risks and opportunities. → several DCF calculations
- Risk is part of the scenarios



# Real Options Valuation

- After the initial decision (e. g. invest or wait), value might change based on certain changes of certain factors (e.g. price of electricity or demand for products) or realization of certain risks
- Example:
  - gold mine where currently only 1 of 2 deposits are used.
  - Depending on gold price, might be valuable to expand mine to 2<sup>nd</sup> deposit – or later to “mothball” it.
  - Option to use 2<sup>nd</sup> deposit has a value
- Allows to calculate value of a project under vastly different outcomes
- Risk is part of the different outcomes, and need not be calculated separately,



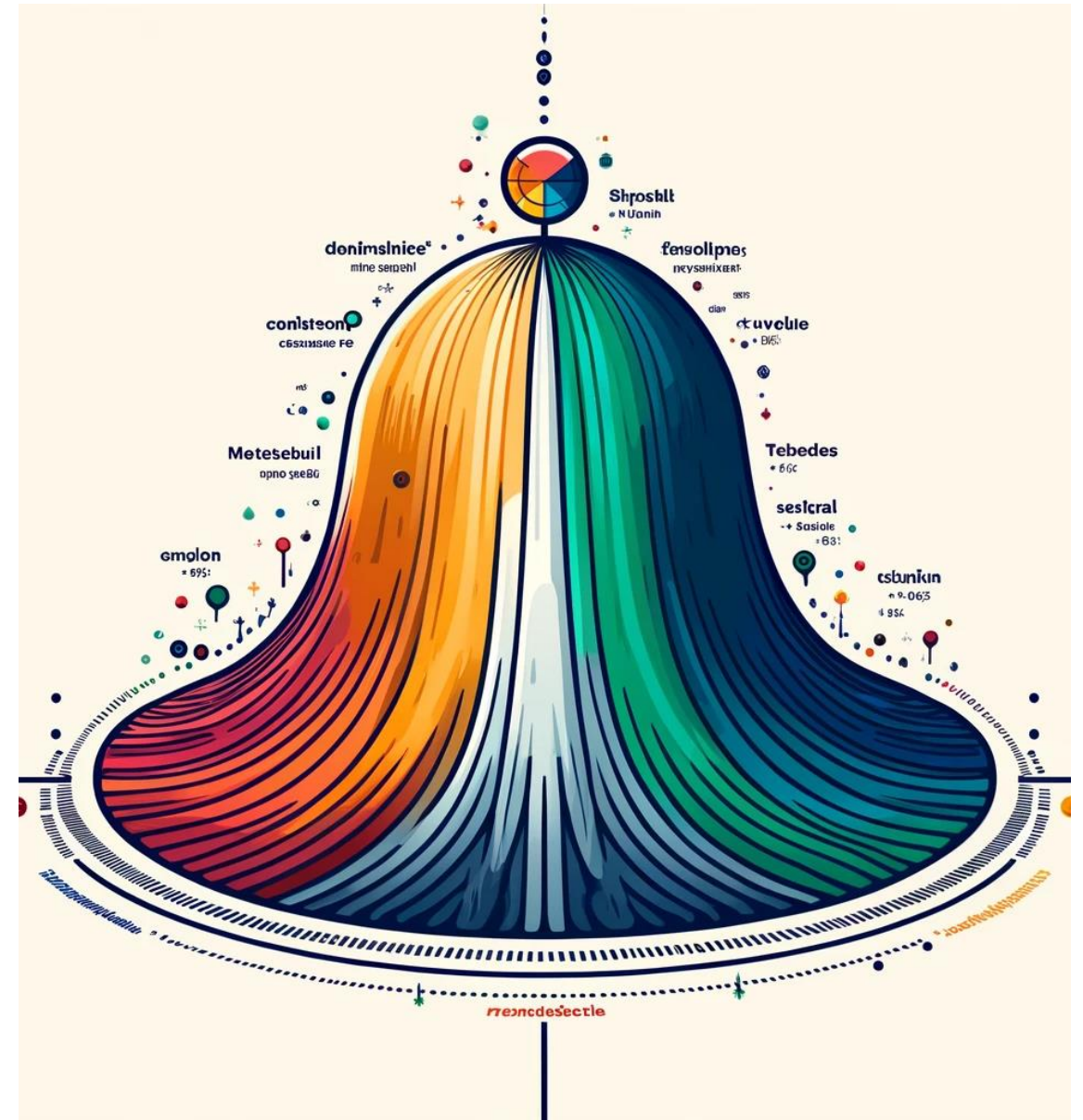
# Market Approach

- **Definition:** The Market Approach values assets based on the prices at which similar assets (or their shares) are sold under similar conditions.
- **Application:** Frequently used to assess fair market value by comparing to comparable publicly traded companies or recent sales of similar businesses.
- **Key Benefits:** Provides a transparent and defensible valuation metric, directly tied to real market conditions. Risk is accounted for based on the prices actual market participants are willing to pay for comparable investments (either publicly traded or in transactions for which the sales price is known).
- **Challenges:** Finding truly comparable assets can be difficult; market conditions may vary significantly, affecting comparability.



# Monte Carlo Method

- (Scenario Analysis)<sup>n</sup>
- Uses computational power to run thousands of DCF-scenarios with different variables (prices, demand, etc)
- Result has a probability distribution with hundreds or thousands of outcomes. Average reflects the likely value
- Calculation of
  - expected cash flows = risk included in Discount rate)
  - certainty equivalent cash flows (risk already in the cash flows).



# Conclusion

- **Not special:** geopolitical risk amplifies traditional risks such as country or market risk
- **Can be dealt with:** can be taken into account in multiple valuation techniques
- **Context Matters:** The choice of method depends on specific case factors, such as available data
- **Flexibility is Key:** some tribunals have used multiple methods





# Q&A

**Thank You!**

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