Folgen der Unsicherheit

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Uncertainty in Economic Analysis

- *Researchers outside a model*

  Given a dynamic economic model:
  - estimate unknown parameters
  - assess model implications.

- *Players inside a model*

  In constructing a dynamic economic model:
  - depict economic agents (consumers, enterprises, policy makers) as they cope with uncertainty
  - construct equilibrium interactions that acknowledge this uncertainty.

Probability meets Social Science

Jacob Bernoulli (above)

Law of Large Numbers used to reveal unknown probabilities (1713)

Probability Models of Economic and Financial Time Series


Bachelier (1900)


Yule (1927)


Slutsky (1927)


Frisch (1933)

Skepticism

> “*Le doute n’est pas une condition agréable, mais la certitude est absurde.*
>
> Voltaire (1776)”

Icons of Statistical Decision Theory


Knight (1921)


de Finetti (1937)


Wald (1939)


Savage (1954)

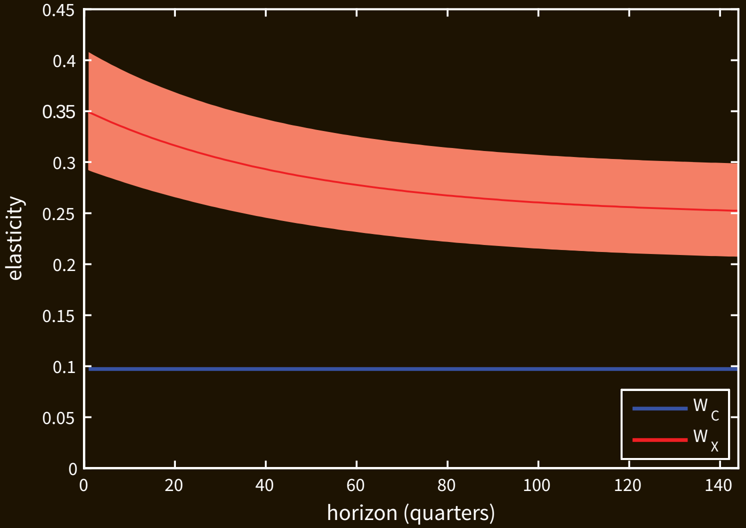
Skepticism made Operational

Players inside an Economic Model

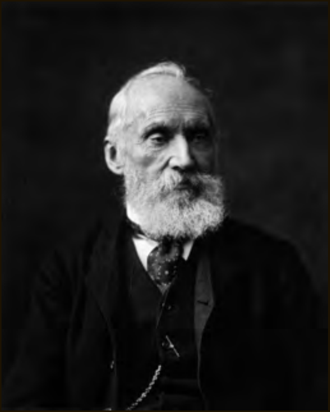
- depict economic agents (consumers, enterprises, policy makers) as they cope with uncertainty
- construct equilibrium interactions that acknowledge this uncertainty.

Outcome: fluctuations in uncertainty prices that emerge in financial markets.

Shock-price elasticity



Quantitative Methods



Lord Kelvin's dictum: "I often say that when you can measure something that you are speaking about, express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of the meagre and unsatisfactory kind." (1883)

University of Chicago scholars' response to the Kelvin Dictum

Knight *"If you cannot measure a thing, go ahead and measure it anyway."*

Viner *". . . and even when we can measure a thing, our knowledge will be meager and unsatisfactory."*

Financial crisis has led to calls for better oversight because of systemic risk. Our knowledge of this concept is "meager."

Policy implications

- Friedman (1961): Long and variable lags in the monetary transmission mechanism.
- Systemic risk: a grab bag of scenarios rationalizing interventions in financial markets.

- Haldane (Bank of England), Tarullo (Board of Governors): Limited understanding of systemic risk challenges its value as a guiding principle for financial oversight!

- Systemic uncertainty.

- Complicated problems do not necessarily require complicated solutions.

Who is Lars Peter Hansen?