History idea risk

Bernstein, P.L. (1996), Wiley. Against the Gods;

the remarkable story of risk

- Risk touches on the most profound aspects of psychology, mathematics, statistics and history
- The revolutionary idea that defines the boundary between modern times and its past is the *mastery of risk*
- Understand risk, measure it, and weigh its consequences

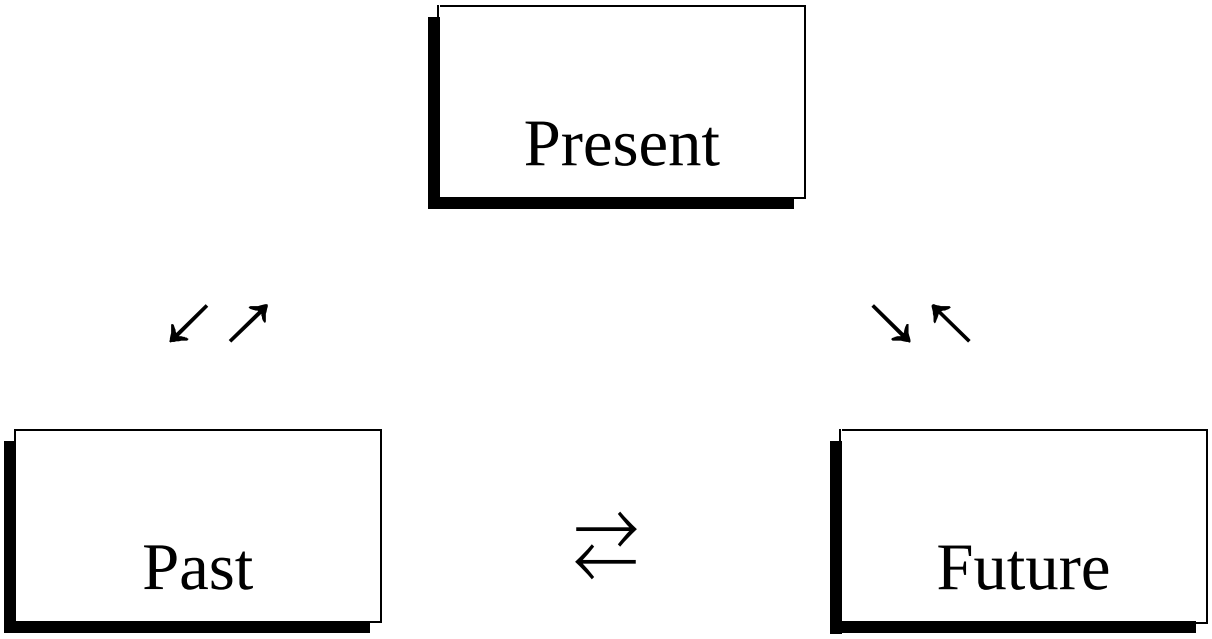
- The transformation in attitudes toward risk management has channeled the human passion for games into economic growth, improved quality of life and technological progress
- The ability to define what may happen in the future and to choose among alternatives lies at the heart of contempory societies
- Serious study of risk began during the Renaissance (Chevaliér de Méré, Pascal, Fermat). Also based on advances in calculus and algebra, and accompanying abstract concepts

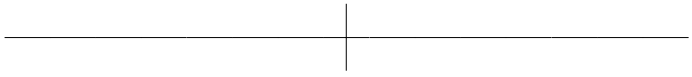
- For the first time people could make decisions and forecast the future with the help of numbers and probability theory
- For the Greeks and for an other thousand years, *thinking* about games and *playing* them remained seperate activities. The Greeks understood that more things might happen in the future than actually *will* happen. The Greec however had little interest in experimentation; theory and proof were all that mattered to them

- Renaissance: scientists, painters, architects were caught up in investigation, experimentation, and demonstration. Freedom of thought, the desire to control the future
- 1650-1760: life tables, beginning of theory of decision making (Pascal), life annuities, Law of large numbers (Jacob Bernouilli), normal distribution (De Moivre), modern techniques of quanti-fying risks, systematic process by which people make choices and reach decisions (expected utility, Daniel Bernouilli), blending new information into old information (Bayes)
- Regression to the mean: matters will return to normal (Galton, 1875)
- Diversification (Markovitz, 1952)

Worldview; time and risk

- Before a society could incorporate the concept of risk into its culture, change would have to come, not in its views of the present, but in attitudes about the future
- Egyptologist Henri Freankfort: "The past and the future -far from being a matter of concern"- were wholly implicit in the present". Change was not part of their mental process





- We cannot quantify the future, because it is unknown, but we have learned to use numbers to scrutinize what happened in the past

- Risk and time are opponent sides of the same coin, for if there was no tomorrow there would be no risk
- Time transforms risks
- Probability has always carried a double meaning, one looking into the future, the other interpreting the past, one concerned with our opinions, the other with what we actually know.
- Insurance companies set premiums to cover losses in the *long run*, but when earthquakes, fires, etc. all happen about the same time, the *short run* can be very painful. For this reserves are required

- Controversy between quantification based on observations of the past and subjective degrees of belief
- Present danger: many of our most critical decisions are made by computers