The History of Investing

Inspired by Mark Rubistein

The amazing thing is that the contributors to the history of investing is dominated by physicists, astronmers, philosophers, mathematicians and priests

Ridham Desai, June 2022

Why is History Important

Inspired by Will Durant

- History is the most reliable path to understanding the present
- Most history is guessing and the rest is prejudice
- The historian always oversimplifies
- Bottomline: History helps contextualise and explain. Explanations form the basis for forecasting the future and investing is about the future.

- Book to read: The Case for India, 1930

What have these things to do with the Stock Market

- Sunflowers
- Rickets outbreak in 17th century London
- The pendulum
- Halley's Comet
- Airplane wing
- Beauty lies in the eye of the beholder
- Pie (22/7)
- BMI
- Pinkfairies (from evening primrose family)
- Coastline of England

Archarya Pingala

200 BCE

- **Chandahsastra**
- Meruprastara: Pascal’s Triangle
- Matrameru: Fibonacci numbers
- Sunya: Zero

Brahmagupta

600 CE

- **Concept of Zero**

Fibonacci

1202 CE

- **The Fibonacci series: 1,1,2,3,5,8,13,21,34,55…..**
- **The Present value calculation**

Luca Pacioli

1494 CE

- **Basics of accounting - Debits, credits, assets, liabilities….Income Statement and Balance sheet**
- **Double entry book keeping**

Unknown - The “Company”

Circa 1500 CE

- **Adam Smith was sceptical**
- **Robert Lowe, the architect of Britan’s Joint Stock Companies Act of 1856 argued the opposite**
- **History shows that owner-managed firms are at a disadvantage in raising cheap long term capital, the limited liability company is an unrivalled mechanism to accumulate capital and efficiently invest it.**
- **Adam Smith was wrong**

Blaise Pascal

1654 CE

- **Pasal’s Triangle - Probability Theory (Fermat)**
- **Path Dependence**
- **Pasal’s Wager**

Christiaan Huygens

1657 CE

- **Expectations - The amount someone should pay for a gamble**

John Graunt

1662 CE

- **Statistics, Mortality Tables and Expected Lifetime**

Edmond Halley
1693 CE

- **Price of an annuity**

Abraham De Moivre

1733 CE

- **Normal Distribution (Gaussian distribution)**

Daniel Bernoulli

1738 CE

- **Risk Aversion, Expected Utility (as a solution to the St. Petersburg Paradox), Merits of diversification**
- **Utility of any small increase in wealth will be inversely proportional to the quantity of goods previously possessed**

David Hume
1739 CE

- **The problem of Induction: The future is under no obligation to mimic the past**

- **Sub-note: The Chicken Theory**
- **Sub-note: Beauty lies in the eye of beholder**

Leonhard Euler
1748 CE

- **Limit of compounding**
- **FV = Pe^rt**
- **e= 2.71828 (Euler’s number)**

Adam Smith
1776 CE

- **An inquiry into the nature and causes of the wealth of nations**

- **Book to read: The Theory of Moral Sentiments (1759)**

Lambert Quetelet

1835 CE

- **The Average Man (Normal Distribution)**

Ludwig Boltzmann

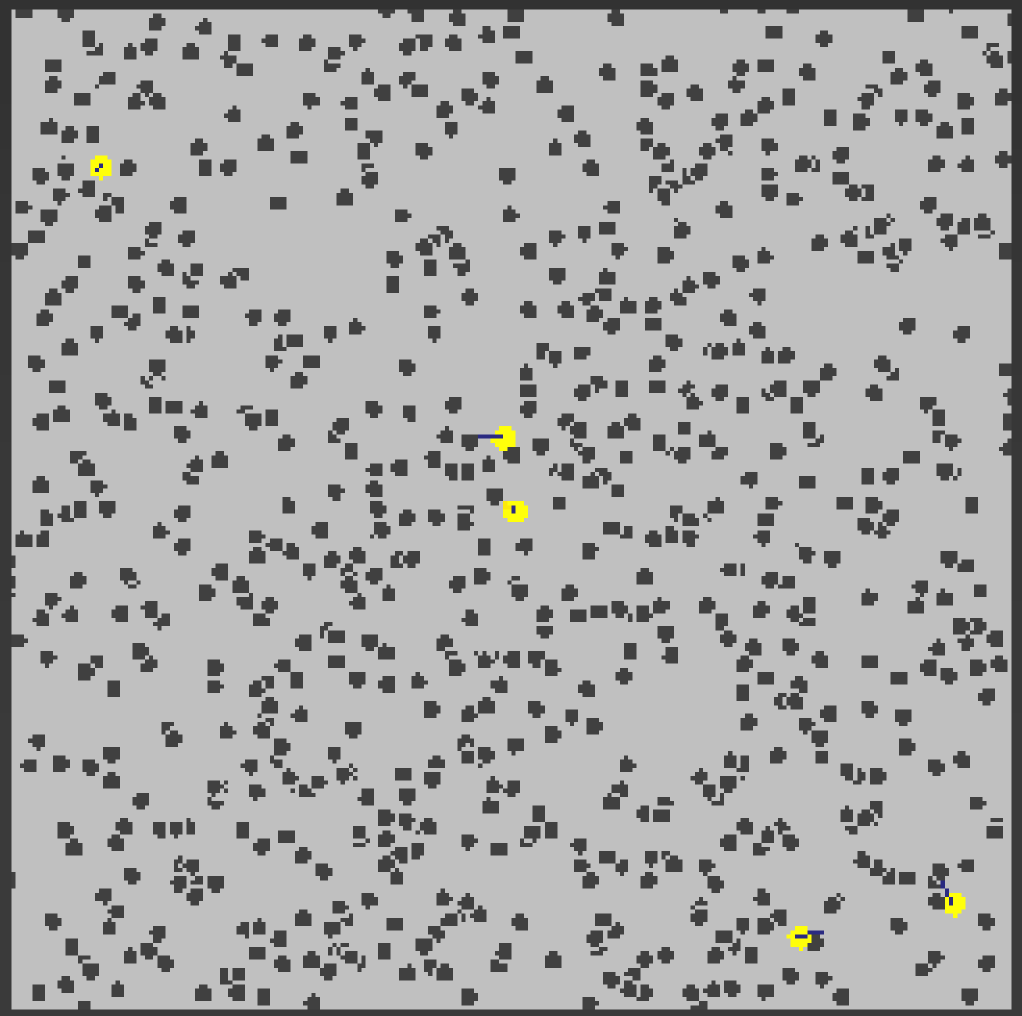
1870 CE

- **Ergodicity**
- **Sub-note: Entropy $S = k \log W$**

Robert Brown, Louis Bachelier, Albert Einstein

1827, 1900, 1906 CE

- **Brownian motion, random walk (volatility expandds in proportion to square root of time)**



Vilfredo Pareto

1906 CE

- **Pareto distribution or power law**

Irving Fisher

1907 CE

- **All capital investments should be evaluated in terms of present value**
- **The importance of speculators**

Frank Knight
1921 CE

- **Risk vs. Uncertainty**
- **Source of profit**

- ***Profit arises out of the unpredictability of things out of the fact that the results of human activity cannot be anticipated***

John Maynard Keynes

1923 CE

- **The modern capitalist economy does not automatically work at top efficiency, but can be raised to that level by the intervention and influence of the government**
- **Market Psyhcology**
- **Market vs. Beauty Contest**
- **Liquidity Preference**

- **Hayek, Friedman, Savage, Neumann, Minsky**

MFS
1924 CE

- **First mutual fund founded by Sherman Adams, Charles Learoyd and Ashton Carr**
- **Started with US$50k - now over US$600 billion in assets**

Alfred Cowles

1933 CE

- **Can Stock Market Forecasters Forecast?**
- **No evidence that the best performing forecaster did so because of skill**

Benjamin Graham

1934 CE

- **Security Analysis**
- **The Intelligent Investor (1949)**

John Burr Williams

1938 CE

- **A Cow for Her Milk, A Hen for Her Eggs, And a Stock, By Heck, For Her Dividends**

Claude Shannon

1948 CE

- **The Father of the Internet = A Mathematical Theory of Communication**

- **Information entropy is a measure of the information content in a message, which is a measure of uncertainty reduced by the message**

Alfred Winslow Jones

1952 CE

- **Father of Hedge Funds**
- **Market neutral fund**
- **Fees and Leverage**

Harry Markowitz

1952 CE

- **Modern Portolio Theory or Portfolio Diversification: Maximising expected returns at minimum portfolio variance of returns**

Maurice Kendall

1953 CE

- **Past price changes are of no help in forecasting future changes because share prices follow a random walk**

John Kelly
1956 CE

- **Kelly Criterion**

- **$f = p - q/b$**
- **$f = p/a - q/b$**

Karl Popper
1959 CE

- **Definition of Science**

Merton Miller & Franco Modigliani

1961 CE

- **A firm's dividend policy will have not any effect on its current stock price**

William Sharpe

1963 CE

- **Capital asset pricing model**

- ***The expected security return is the sum of riskless return and the product of market wide risk aversion and the covariance of security return with the return of the market (beta)***

Eugene Fama

1965 CE

- **Efficient market hypothesis**

Edward O Thorpe

1969 CE

- **Beat the Dealer**

Charlie Munger

1970 CE

- **Simply read: Poor Charlie’s Almanack**

- **Cheap value vs. Deep value**
- **The Lollapalooza effect: Mental Models**
- **Many hard problems are best solved when they are addressed backward**

- **Warren Buffet is Munger’s more famous partner**

Fischer Black, Myron Scholes, Robert Merton

1973 CE

- **Black-Scholes model on derivatives pricing**
- **LTCM, 1997**

John Bogle
1974 CE

- **Founder of Vangaurd and pioneer of Index investing**

Benoit Mandelbrot

1975 CE

- **Financial markets are an example of "wild randomness", characterized by concentration and long range dependence**
- **Scaling law and fractal nature of market microstructure**
- **Financial markets do not follow Gaussian distribution but stable Paretian distribution with infinite variance**

Daniel Kahneman

1979 CE

- **Prospect Theory: Loss Aversion because losses are more painful than gains**

2. **100% chance to gain Rs50000 or 50% chance to gain Rs100000**
3. **100% chance to Lose Rs50000 or 50% chance to lose Rs110000**

Jim Simmons

1982 CE

- **The founder of Renassaince Capital and Father of Quant Investing**

- **DE Shaw**

George Soros
1987 CE

- **The Alchemy of Finance (Reflexivity)**

Nassim Nicholas Taleb

2001 CE

- **Fooled by Randomness 2001**

- **The Black Swan 2007**

Further Reading

2022 CE

- The Black Swan, Taleb
- Fooled by Randomness, Taleb
- Predictably Irrational, Ariely
- Reminiscences of a Stock Operator, Lefevre
- Money, Blood, and Revolution, Cooper
- The (Mis)Behaviour of Markets, Mandelbrot
- How Adam Smith Can Change your Life, Roberts
- Thinking, Fast and Slow, Kahneman
- The Case for India, Durant
- Poor Charlie's Almanack, Munger
- Seeking Wisdom: From Darwin to Munger, Bevelin
- The Little Book that Beats the Market, Greenblatt
- More than you know, Mauboussin
- A Man for all Markets, Thorpe
- Manias, Panics and Crashes, Kindleberger
- Theory of Investment Value, Williams
- The Logic of Scientific Discovery, Popper
- Risk, Uncertainty and Profit, Knight
- The Rebel Allocator, Taylor
- The Man Who Solved the Market, Zuckerman
- Economics in One Lesson, Hazlitt
- The Hour Between Dog and Wolf, Coates
- Common Stocks and Uncommon Profits, Fisher
- Margin of Safety, Klarman
- 100 to 1 in the Stock Market, Phelps
- The Intelligent Investor, Graham
- Where are the Customer's Yachts, Schwed Jr.
- Against the Gods, Bernstein
- Fortune's Formula, Poundstone

Some Conclusions

2022 CE

- Investing is neither science nor art, may be it is psychology, may it is like natural phenomena
- May be that is why Fibonacci numbers could be relevant
- The stock market is non ergodic which is why Behavioral economics is useless for investors
- Stock returns are not distributed under a normal curve - be wary of averages
- Kelly criterion is key to wealth creation
- Remember the problem of induction : The future is not obliged to mimic the past
- Love uncertainty because that is from where profits come
- A Cow for Her Milk, A Hen for Her Eggs, And a Stock, By Heck, For Her Dividends