Risk Through the Looking Glass

The pursuit of a return without the risk

A presentation to the Cyprus Economic Society based on a paper by the same title:

Risk Through the Looking Glass – The Pursuit of a Return Without the Risk

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Nicosia, 17 November 2022

Risk Through the Looking Glass - YouTube

What is Risk

In an Alternate World

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Assess Risk with Ease

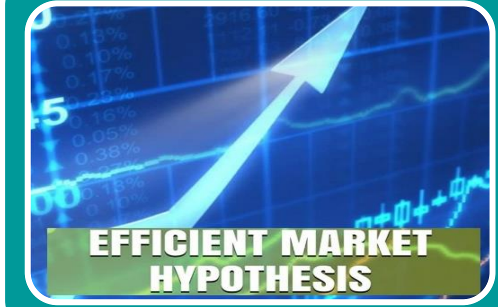
The Alternate World of Risk

Investment Risk as viewed from the floor of a stock exchange

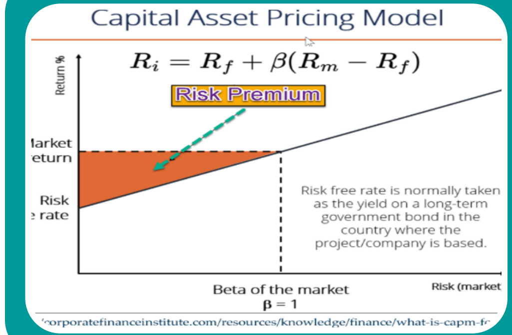
- In finance theory, "**Risk**" refers to the **volatility** around a *historically derived* **expected return**.

- Standard deviation provides a measure of the **volatility** of asset prices in comparison to their historical averages in a given time frame.

Risk and Return from the floor of a Stock exchange



*<u>The Efficient Market Hypothesis (**EMH**)</u>* – Fama (1970), *postulates that market prices reflect all available, relevant information and asserts that optimal prices will always prevail as any market anomalies are arbitraged away.*



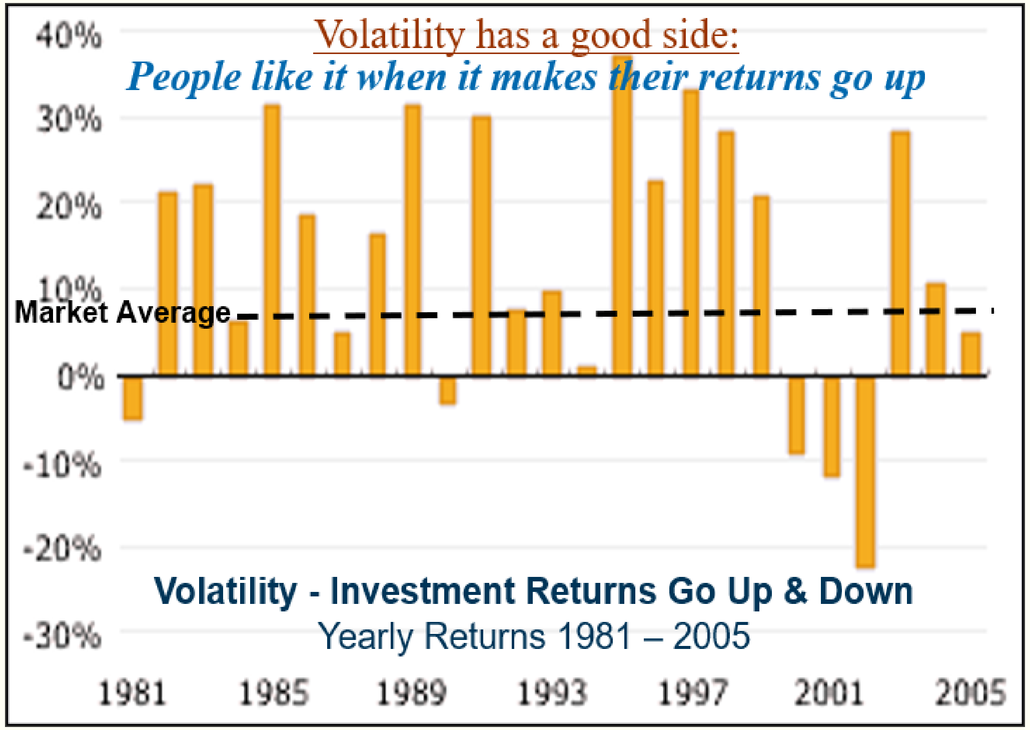
*<u>The Capital Asset Pricing Model (**CAPM**)</u>, is a model that seeks to formulate the relationship between the expected return and **the risk of investing in a security**. It postulates that the expected return on a security is equal to the risk-free return plus a **risk premium**, which is based on the **beta** of that security.*

The general acceptance of the EMH and CAPM as well as the deregulation of financial markets paved the way for investment advisers to provide packages which promise giving **wealthy investors** what they wanted, which is **"a return without the risk"**

Risk is not volatility of historical return

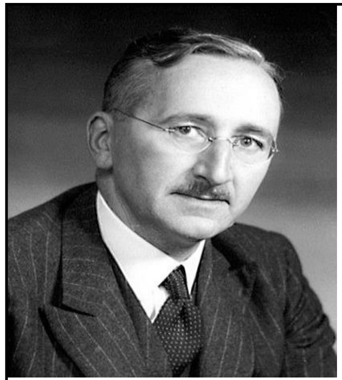
- The suggestion that if markets are efficient, then all information is incorporated into prices is false because no matter how much or what data one ***straitjackets*** into a price it *cannot* reflect the present value of future cash flows.
- The hypothesis that an investor *can't outperform* the market and that **"risk" disappears through a diversified portfolio** is **a self-fulfilling prophecy**. Since risk is defined as volatility, it is inevitable that the overall return of a well-diversified portfolio *will converge* to the market average.
- **Equity investment** can only be evaluated through prudent appraisal and cash flow projections. Risk is gauged through **probabilistic analysis** on the key variables in a financial model.

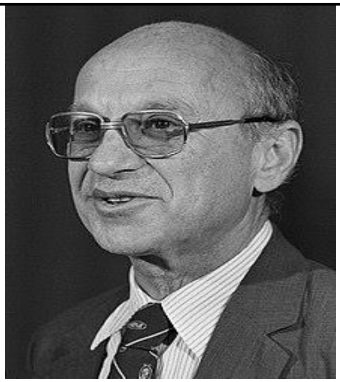
Watching past prices and from this to be inferring anything about what may be the return in the future **is not rational**.

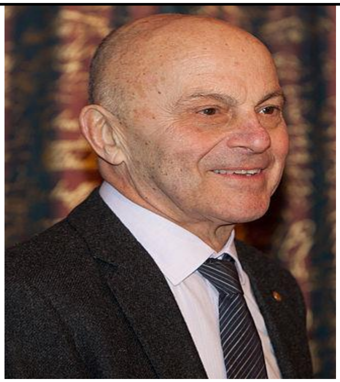


Source: S&P's Micropal. Graph shows annual returns for S&P 500 Index and assumes reinvestment of all dividends

Neo-Liberal Economists and the rise of crony capitalism

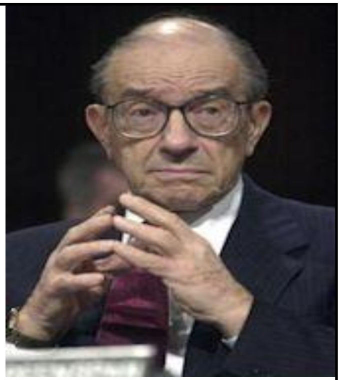

Friedrich Hayek

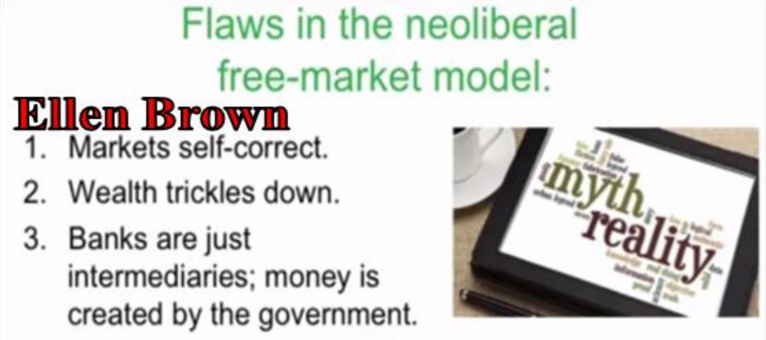

Milton Friedman


Eugene Fama

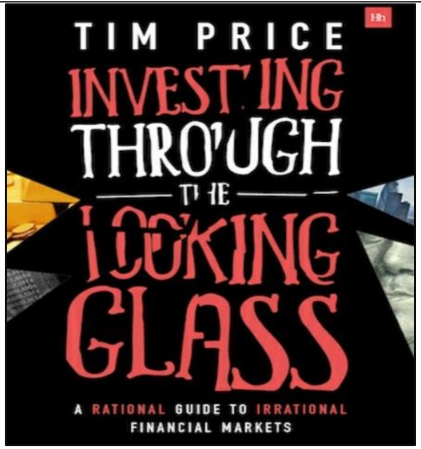

Harry Markowitz


Arnold Harberger

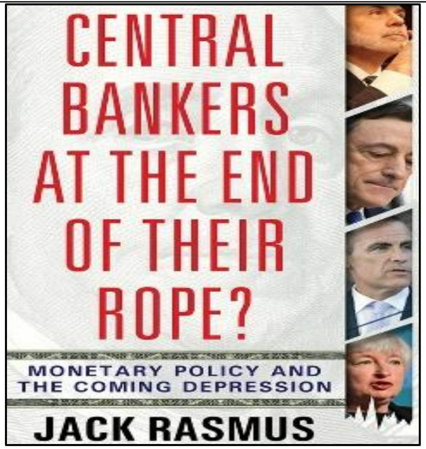

Alan Greenspan



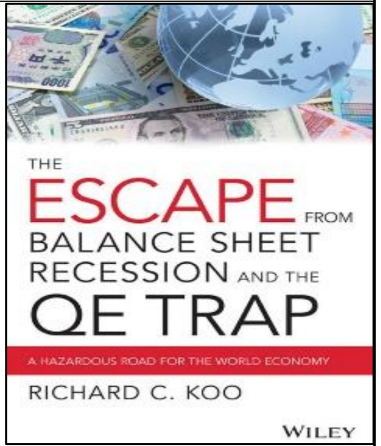
- Supply-side Economics
- Monetary policy
- Efficient Market Hypothesis
- Capital Asset Pricing Model
- Third Postulate of Welfare Economics *
- Financialization of the Economy
- Globalization



A Rational Guide to **Irrational Financial Markets**



Monetary Theory
MV = PQ
is not panacea

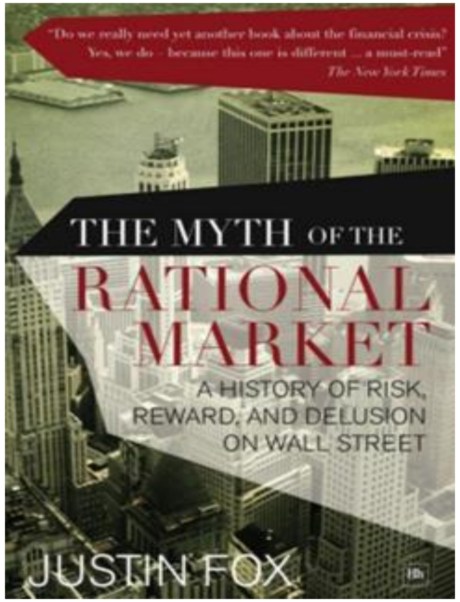


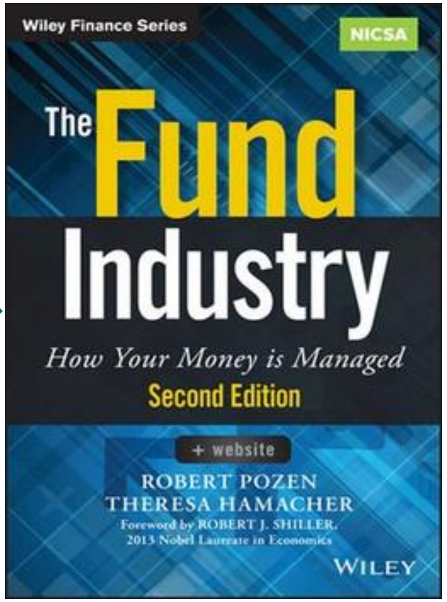
Private Debt Matters and **Austerity** makes it worse

** The Third Postulate of Welfare Economics by Arnold Harberger has its practical uses in Cost Benefit Analysis and is compensated with Stakeholder Analysis to consider who gains and who loses in the investment decision.*

The Alternate World of Risk

The **Myth of the Rational Markets** has led to the **repeal** of the **Glass Steagall Act** in the US and the unleashing of investment banks (and insurance) onto banking.





This in turn has led to **the emergence of the Fund industry** and the explosion of **rating agencies, wealth management and hedge funds** offering **asset backed securities** in an effort to provide a modest *but safe* return to their wealthy customers.

Note: *The **deposit insurance** was introduced following the separation of banking from investment banks and insurance as the risk was thus substantially reduced and in order to mitigate the impact of Glass Steagall on the banks' profitability. However, following it's repeal in 1999 deposit insurance **remained in place**.*

Financial Markets, Bloated Governments and the Misallocation of Capital by Savvakis C. Savvides

The Alternate World of Risk

Collateral lending *creates* and *piles up* ***unproductive*** **private debt** while it also **provides the raw materials** for enabling Funds and other intermediaries to come up with product solutions that meet the **risk profile** of their wealthy investors.

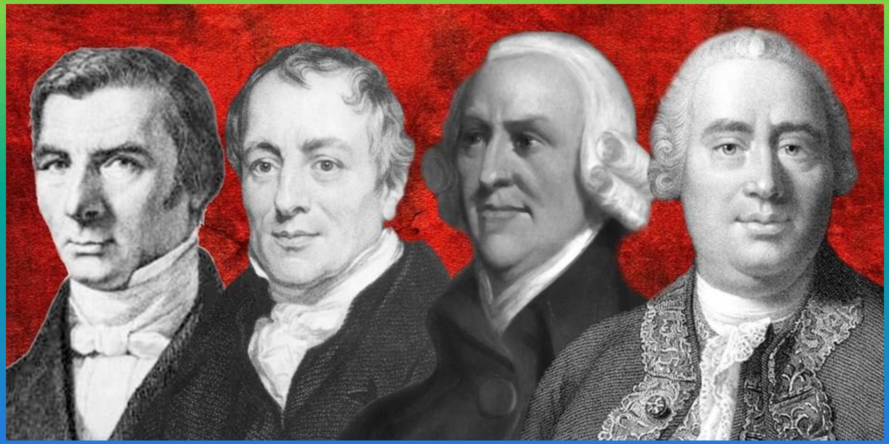
- Corporate Lending and the Assessment of Credit Risk by Savvakis C. Savvides
- Neglect Private Debt at the Economy's Peril by Leslie Manison, Savvakis C. Savvides

Interest was *justified* as <u>payment</u> for *the service of* ***<u>lending productively</u>***

The Economics of classical economists such as Adam Smith, Stuart Mill and Marshall were centred around **<u>industry and the real economy</u>**.

Even economists who were defending the existence of **rentiers** could only do so on the premise that **<u>banks finance productivity</u>**. Landlords and the financial classes were thought of as getting **<u>a free lunch</u>** by **<u>extracting</u>** <u>rather than creating</u> **<u>wealth</u>**.

By the late 19th century the rentiers fought back by arguing that economic rent was **not accruing "<u>in their sleep</u>"** as *J. S. Mill* had characterised it. **John Bates Clark** argued that interest is not exploitation but rather the ***<u>payment for the "service" of lending productively</u>***.



Collateral Lending is in the interests of profit seeking banks

Lending productively *however is not pursued, even when the skills to assess repayment capability exist, as this route* ***does not maximise profits*** *for private banks that are operating in slack fractional reserve conditions and* ***with a safety net in place****.*

Banking on misery – a system that serves the rentier

- ***Michael W. Hudson*** of the *Wall Street Journal* in his article *"Banking on Misery: Citigroup, Wall Street, and the Fleecing of the South"* describes how banks found it ***in their interest*** to write mortgages way **beyond the ability of borrowers to pay** because they knew they could ***turn around and sell these mortgages*** to someone else.
- The **repeal of the Glass-Steagall Act** made this possible. As professor ***Michael Hudson*** points out: "***bad loan management*** *has been* ***built into the conflict of interest*** that goes hand in hand with ***vertical integration of the banks***, brokerage houses, Wall Street and mortgage lenders".
- It is also aided by a loose, *or even absent*, control by regulatory authorities.

The Alternate World of Risk

Unproductive lending inevitably drives **funding away from sound and sustainable economic development** and slowly but surely **derails the real economy**.

In addition, banks have become **too big to fail** which also compels Governments to resort to **bail-outs** in order to avoid economic recessions.

Funding Economic Development and the Role of National Development Banks - The Case of Cyprus
by Helen Kavvadia, Savvakis C. Savvides

The Alternate World of Risk

The end result is **a world that accentuates inequality** and evolves around **wealth transfer** rather than **wealth creation** and economic welfare.

The disconnect of funding from wealth creation by Savvakis C. Savvides

What is Risk







In the Real World

[RiskEase - Risk Analysis Software - Website]

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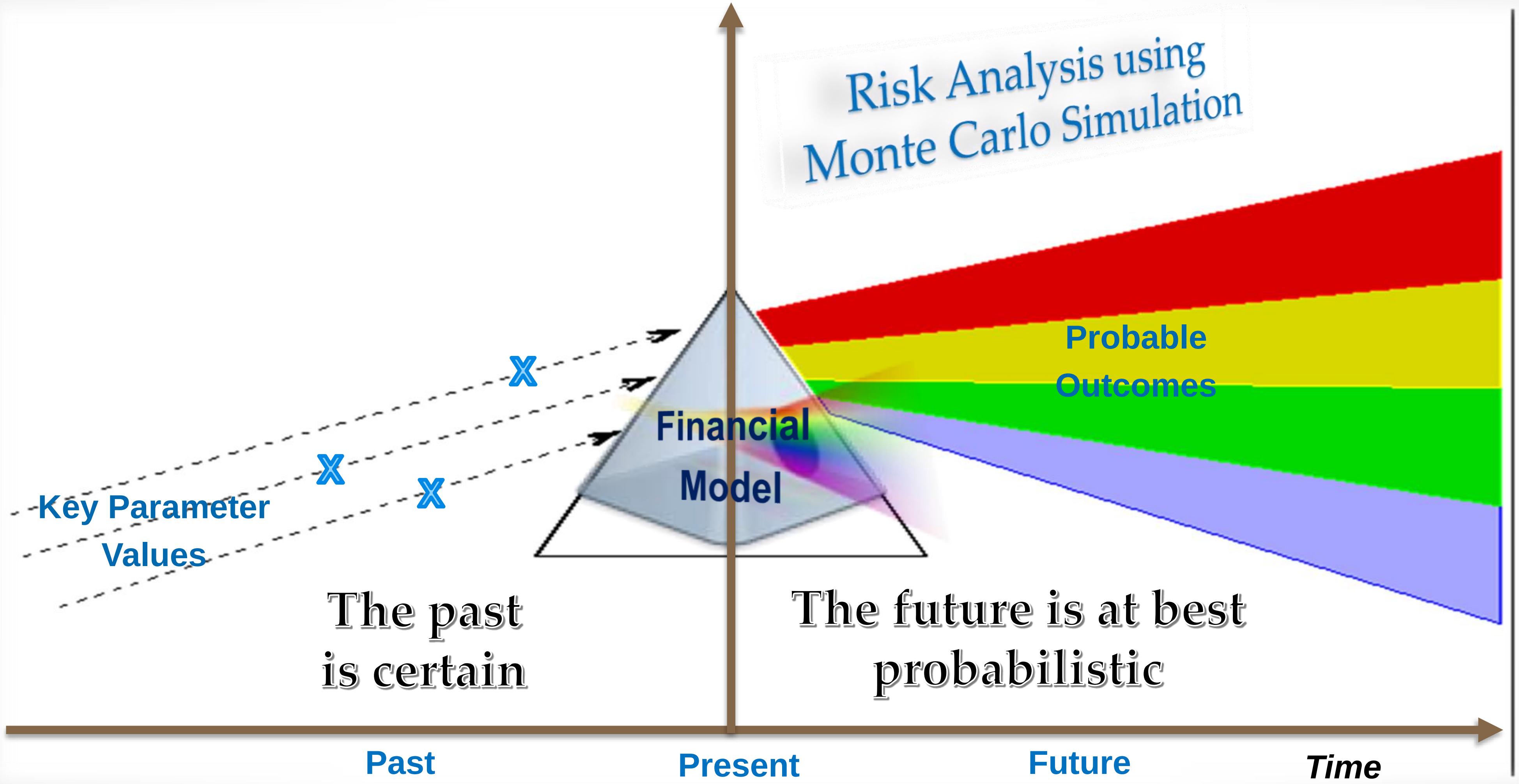
Assess Risk with Ease

[Risk Analysis using RiskEase Video]

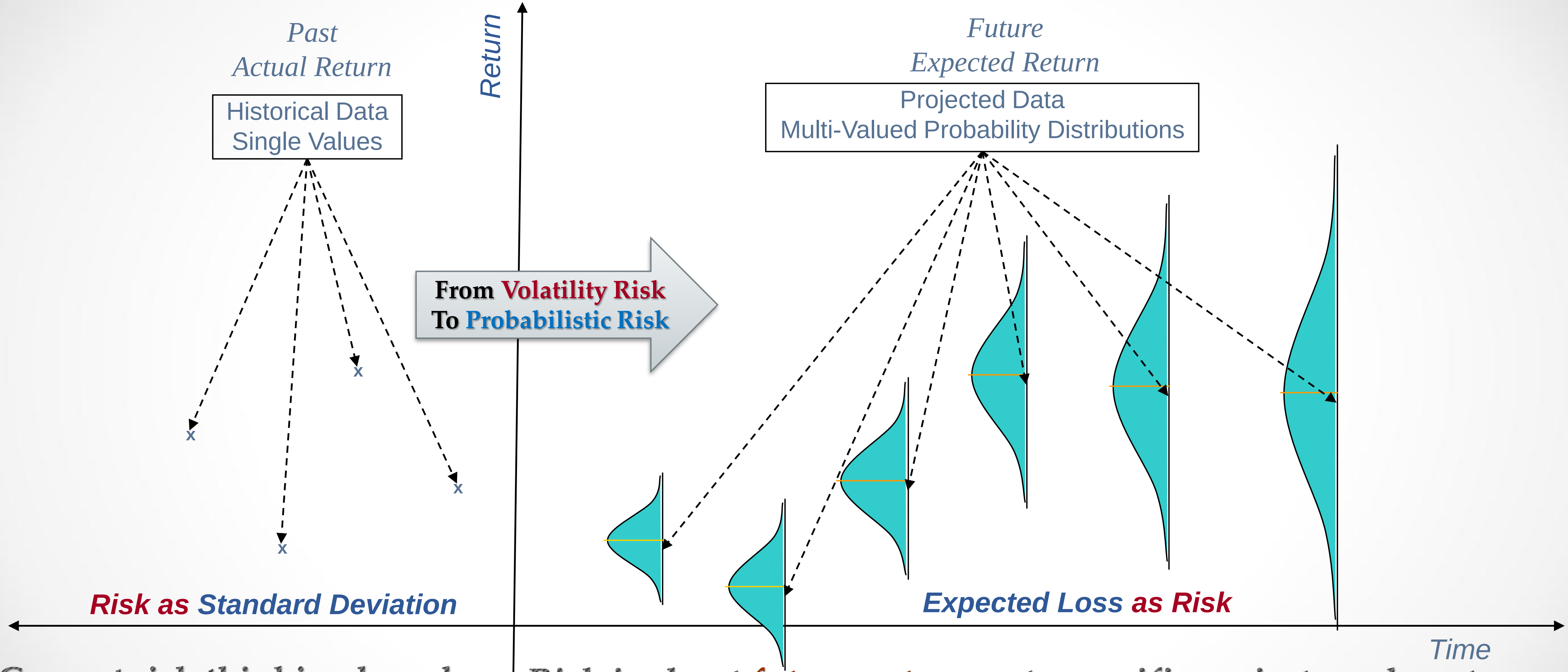
Uncertainty and the Assessment of Risk



- *Risk Analysis in Investment Appraisal* by Savvakis C. Savvides
- *Market Analysis and the Assessment of Competitiveness in Project Appraisal* by Savvakis C. Savvides

Historical Versus Projected Expected Return

The higher the risk the higher the required return

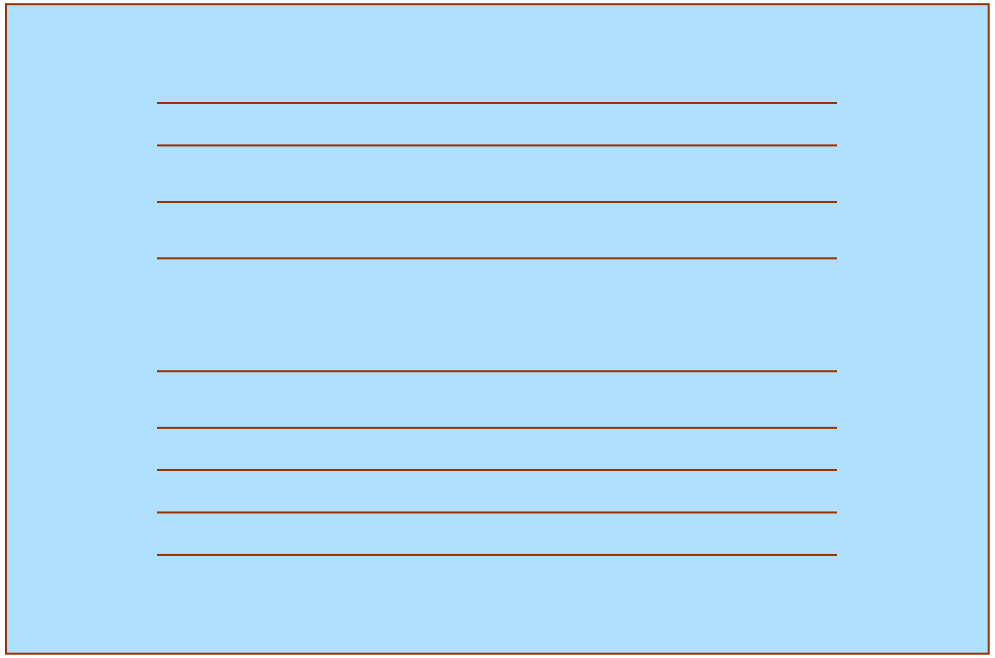


Current risk thinking based on **volatility** is **statistical** and derived from **past data**

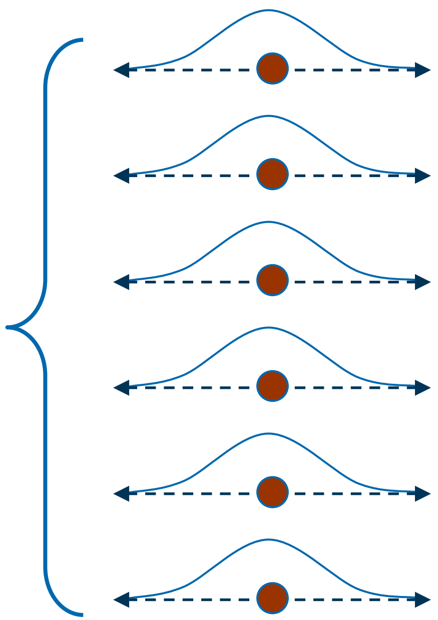
Risk is about **future outcomes** to specific projects and ventures. For this, one needs **a pertinent model** and **probability assumptions** for the **key variables** that drive the model.

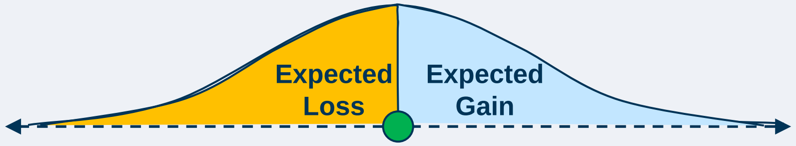
Risk can be measured through the use of Probability Distributions in a Monte Carlo simulation process

Cash-Flow Projections



Input Variables





Risk = **Outcomes** X **Probability** of occurrence

Projected Return (*or Expected value*)
= The Sum of all probability weighted outcomes

*The **Expected Value** of a project is **Expected Loss** (sum of all probability weighted outcomes below 0 Net Present Value)* ***plus*** ***Expected Gain*** *(sum of probability weighted outcomes above 0 Net Present Value).*

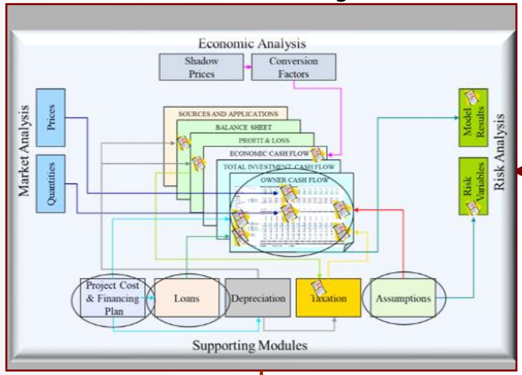
Positive Volatility *is* **not** *really risk.*

The evaluation of capital investment projects and the assessment of risk

1 Integrated Financial Model

Cost-Benefit Analysis methodology

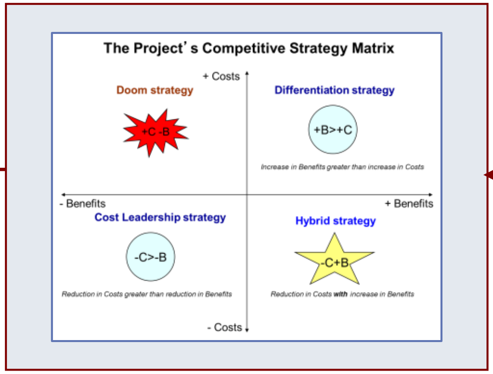
Cash-Flow Projections



2 Competitiveness Appraisal

Market analysis for a coherent business plan

Marketing Module



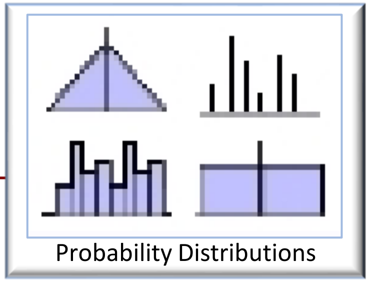
Output Data

3 Risk Analysis*

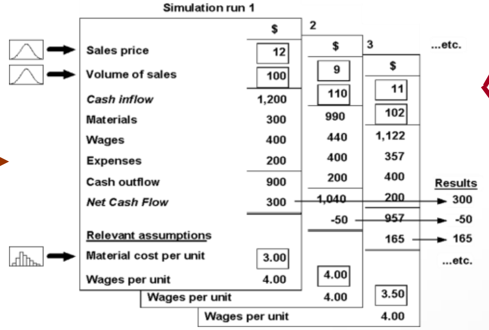
Dealing with uncertainty by probabilistic simulation

Risk Variables

Input Data



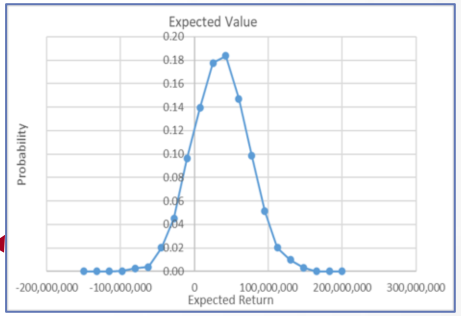
Simulation Results



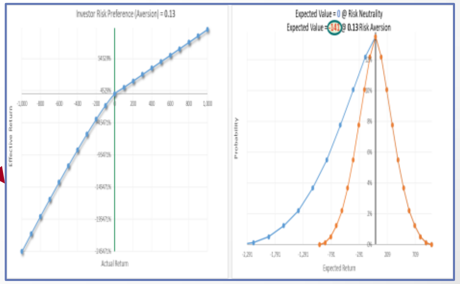
4 Risk/Return Profile

Risk assessment and financing structure

Expected Value



Risk Aversion



* **RiskEase** - Risk Analysis Software: https://www.riskease.com/

Example of risk analysis results and the components of Expected Value

- In the context of capital investment **risk** is defined as ***the sum of all probability weighted negative outcomes*** *(or those falling below what is considered to be a required return).*
- This is the **Expected Loss** section of the probability distribution resulting from a simulation using Monte Carlo methodology.

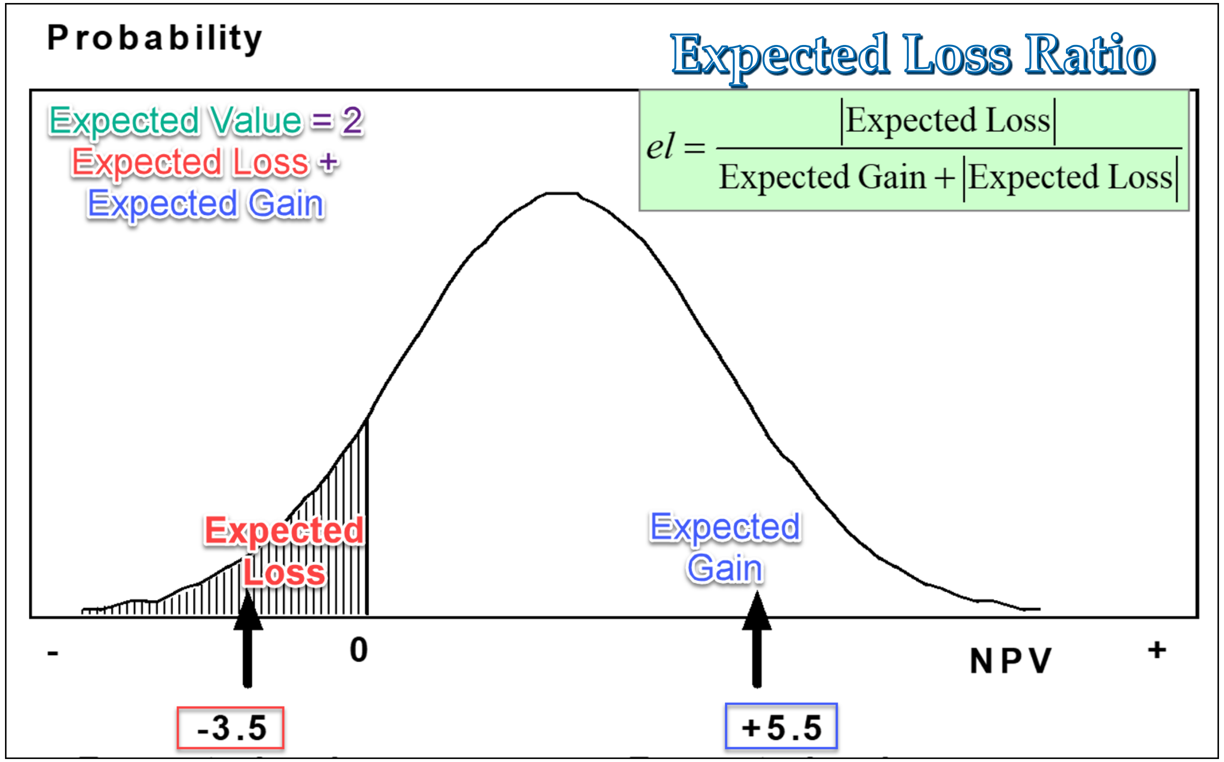
Simulation Runs Table

Return		Probability		Expected Value	
-10	x	0.2	=	-2.0	Expected Loss
-5	x	0.3	=	-1.5	
10	x	0.4	=	4.0	Expected Gain
15	x	0.1	=	1.5	
Total				2.0	

** Only four simulations are in the example in order to demonstrate how the expected value formulas are applied. In a real Monte Carlo run the simulations will be in thousands.*

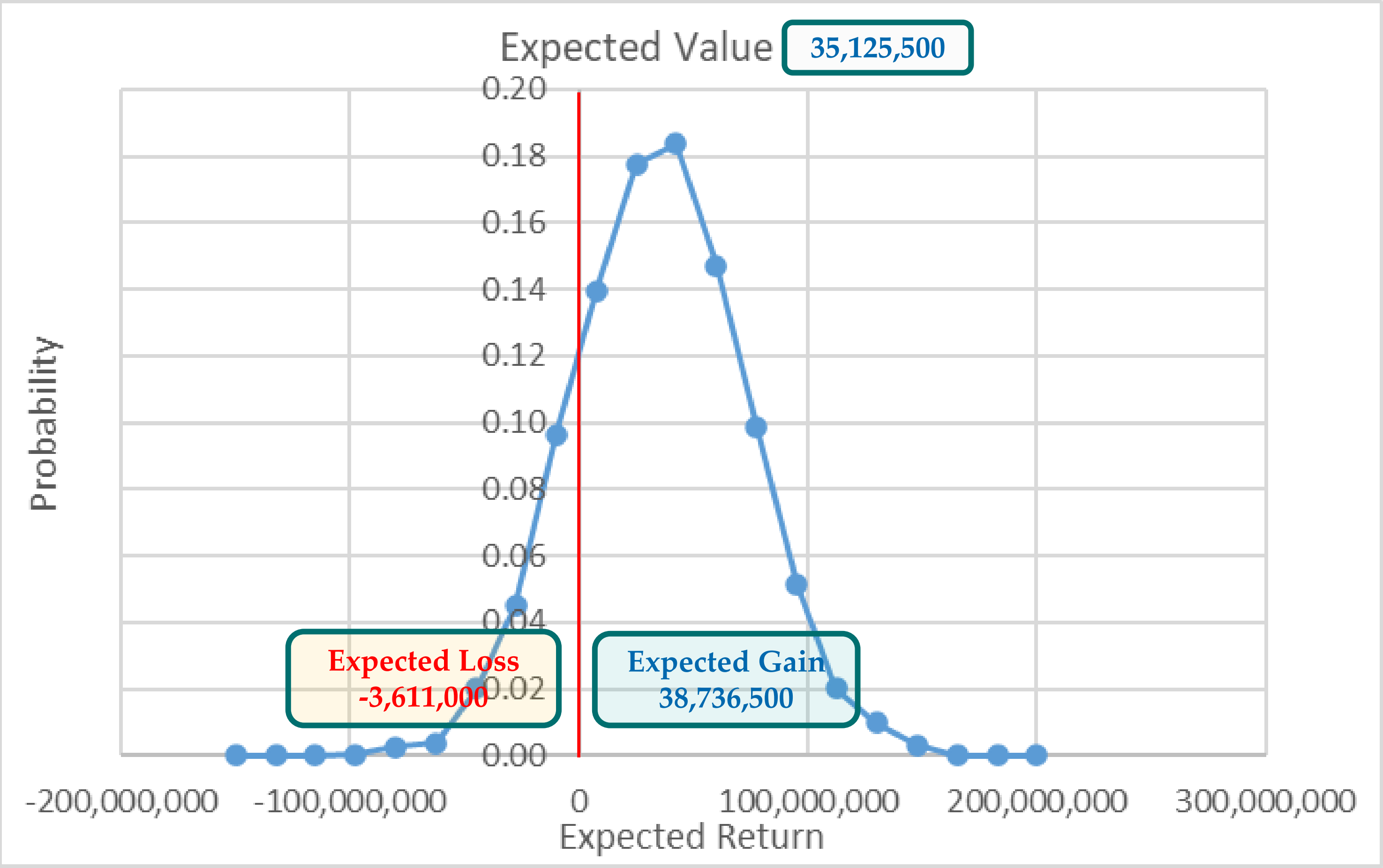
Expected Loss Ratio

$$el = \frac{|\text{Expected Loss}|}{\text{Expected Gain} + |\text{Expected Loss}|}$$



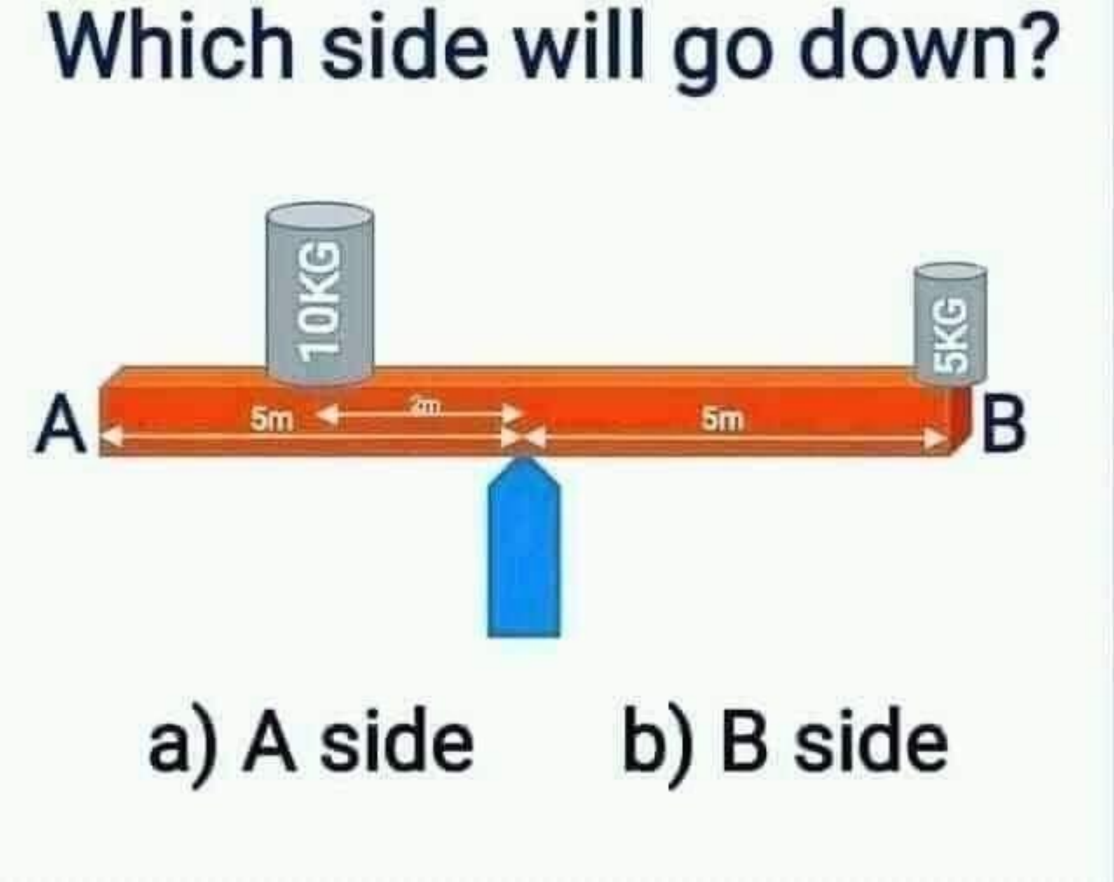
Expected Loss as measure of risk

Return	Prob	Expected Value	Expected Loss	Expected Gain
-150,000,000	0.0000	0	0	0
-132,500,000	0.0000	0	0	0
-115,000,000	0.0000	0	0	0
-97,500,000	0.0004	-39,000	-39,000	0
-80,000,000	0.0026	-208,000	-208,000	0
-62,500,000	0.0040	-250,000	-250,000	0
-45,000,000	0.0202	-909,000	-909,000	0
-27,500,000	0.0452	-1,243,000	-1,243,000	0
-10,000,000	0.0962	-962,000	-962,000	0
7,500,000	0.1394	1,045,500	0	1,045,500
25,000,000	0.1776	4,440,000	0	4,440,000
42,500,000	0.1836	7,803,000	0	7,803,000
60,000,000	0.1472	8,832,000	0	8,832,000
77,500,000	0.0986	7,641,500	0	7,641,500
95,000,000	0.0512	4,864,000	0	4,864,000
112,500,000	0.0204	2,295,000	0	2,295,000
130,000,000	0.0098	1,274,000	0	1,274,000
147,500,000	0.0032	472,000	0	472,000
165,000,000	0.0002	33,000	0	33,000
182,500,000	0.0002	36,500	0	36,500
200,000,000	0.0000	0	0	0
		35,125,500	-3,611,000	38,736,500



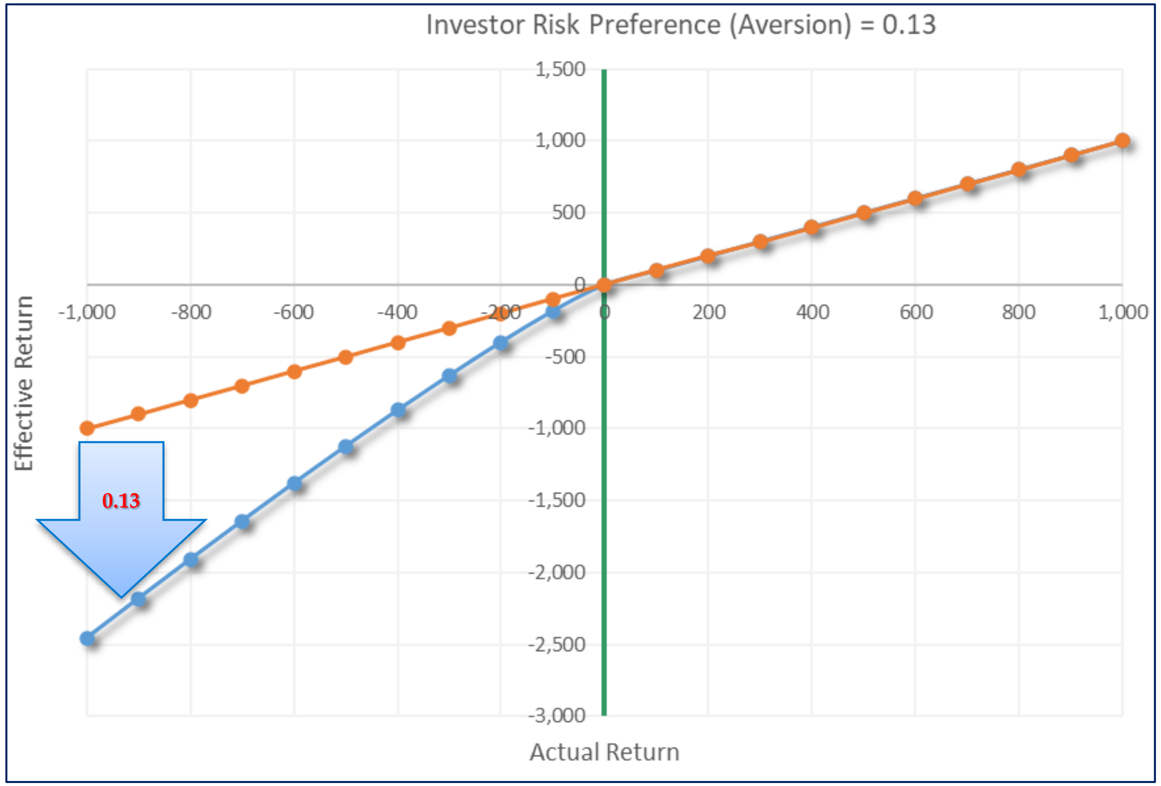
Weighing up Expected Loss against Expected Gain

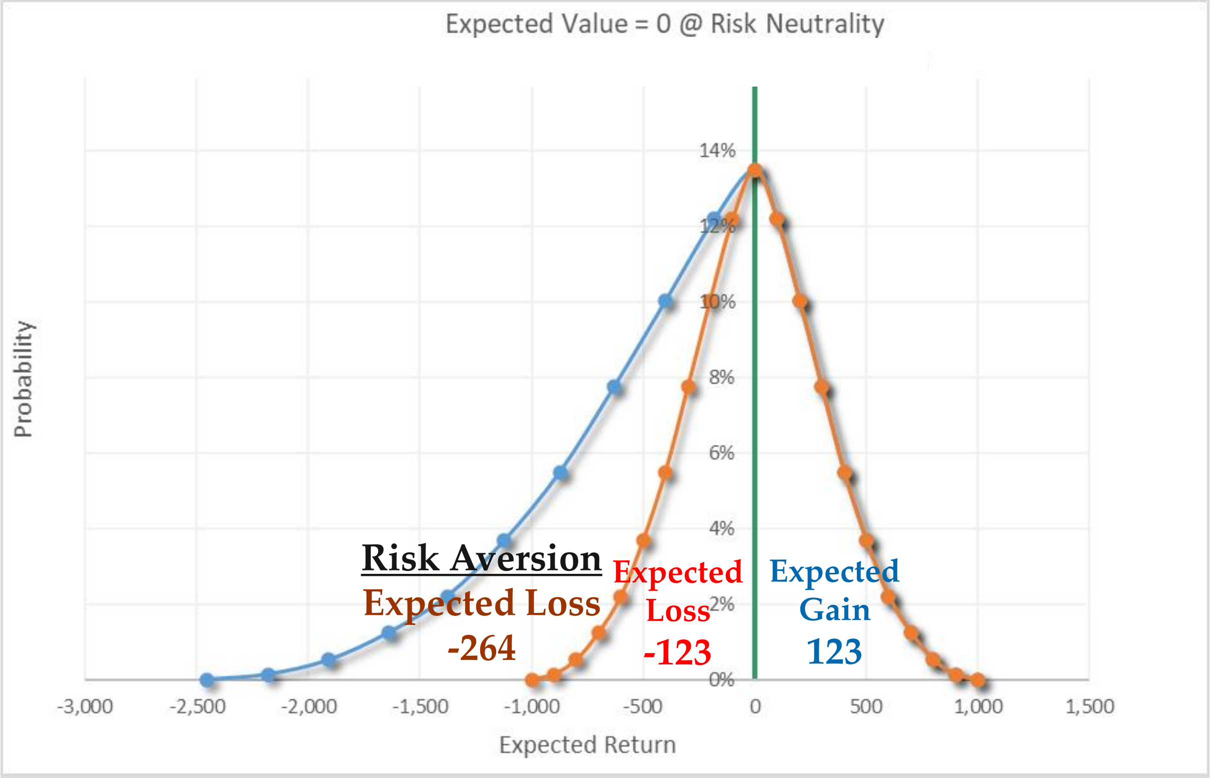
Depending on who the potential investor is and factors such as the concentration of money and inequality in an economy, Expected Loss may weigh heavier on the Risk/Return scale.



Expected Loss weighs heavier to investors than Expected Gain

Expected Loss adjusted for Risk Aversion

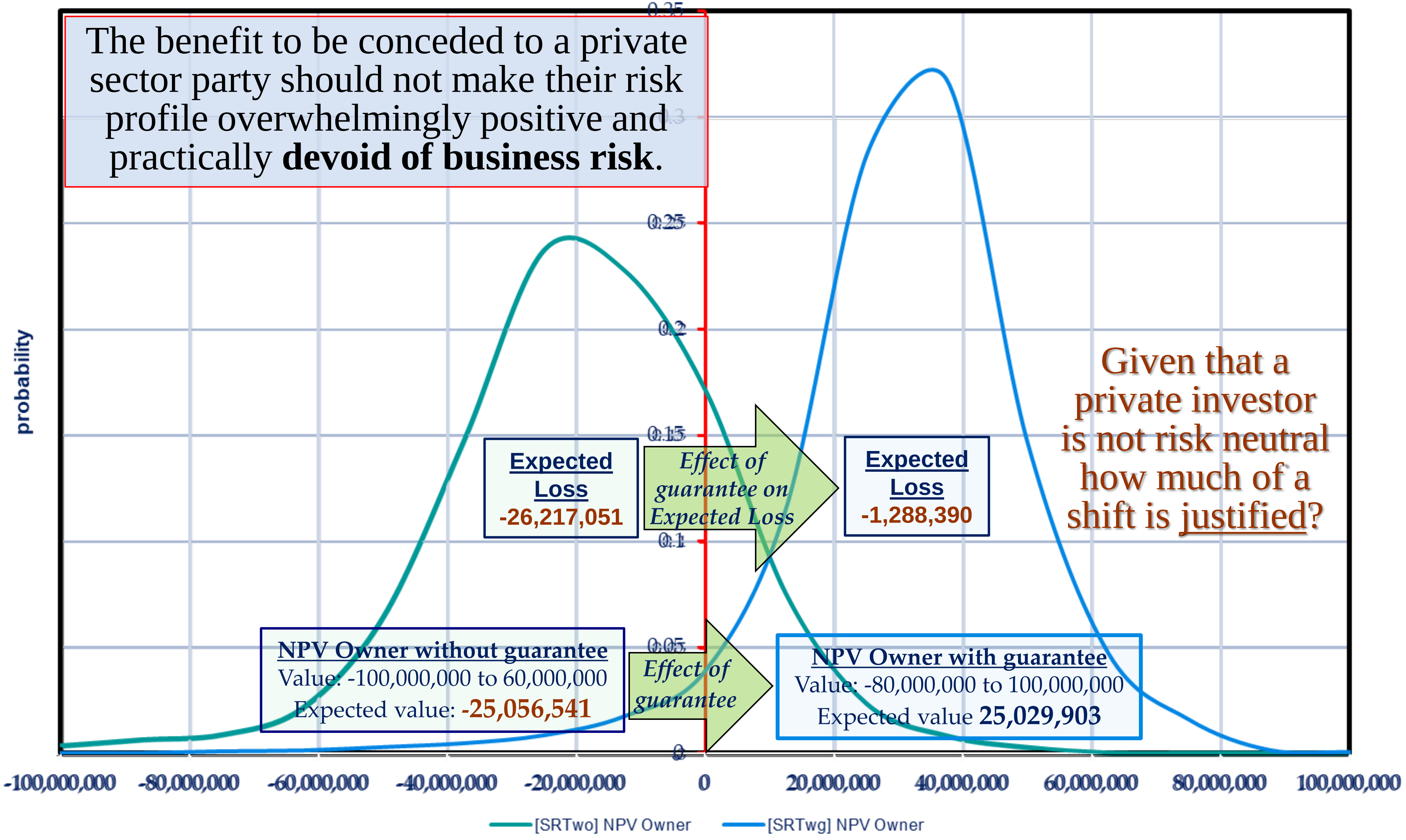




Expected Value adjusted for risk aversion
= (-264) + 123 = -141

Evaluating and Pricing contracts and guarantees

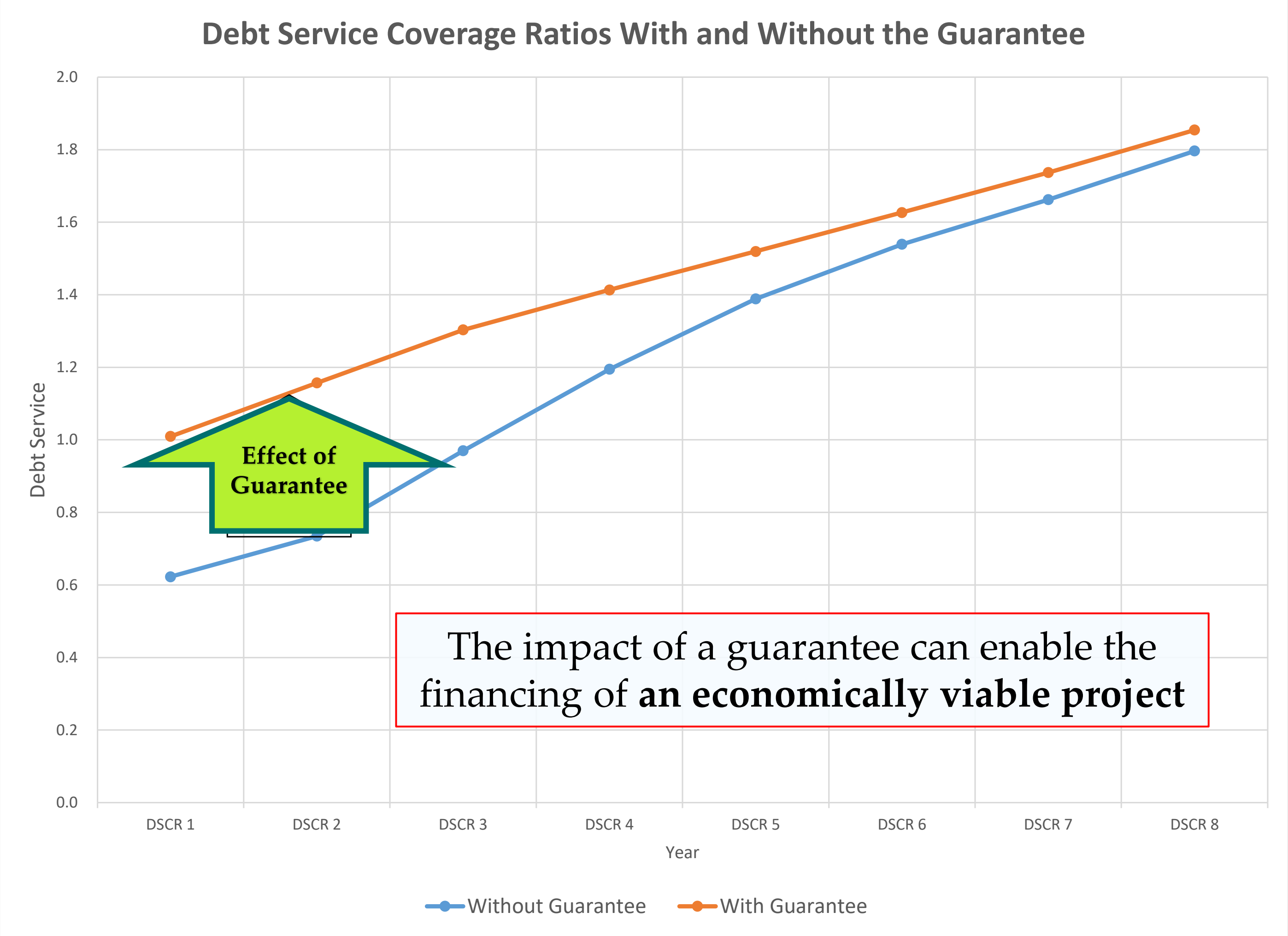
Comparative Analysis - NPV Owner with and without Guarantee



The need for proper evaluation and <u>assessment of concessions</u>

How to contain crony deals between the private and public sector

A contract of guarantee can transform the assessment of a loan to one with an acceptable repayment profile and thereby enable its financing.



- Dubious agreements between the public and the private sector are often agreed <u>without</u> an **independent** financial and economic appraisal.
- These contracts often result in passing the risk to the public sector and lead to **government created monopolies**.
- Such concessions merely **privatise the gains** and **socialise the costs**.
- The **return and risks** accruing to each **stakeholder** should be evaluated before agreeing on a concession.

What is Risk







Implications of the pursuit of a return without the risk on the real economy

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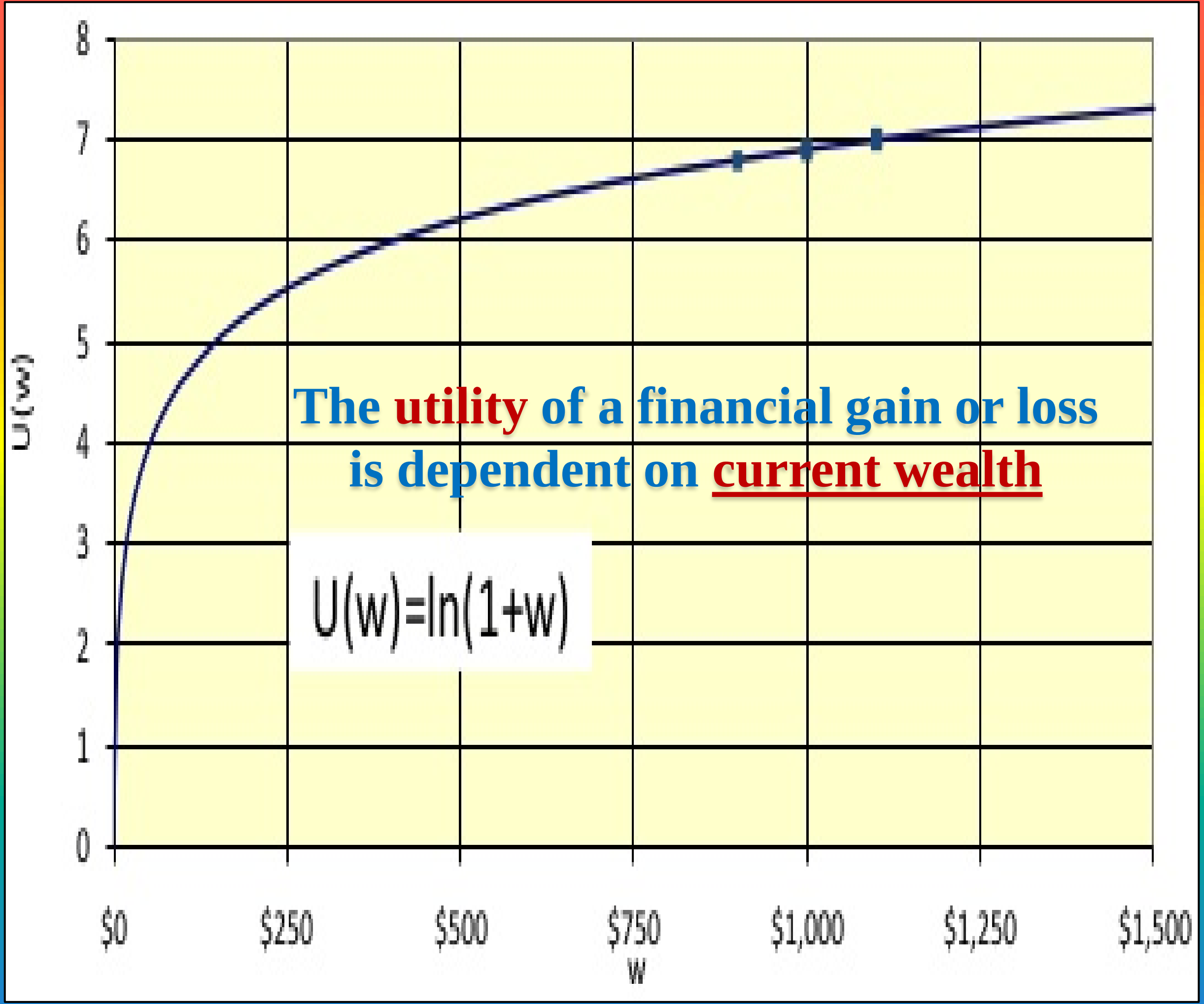
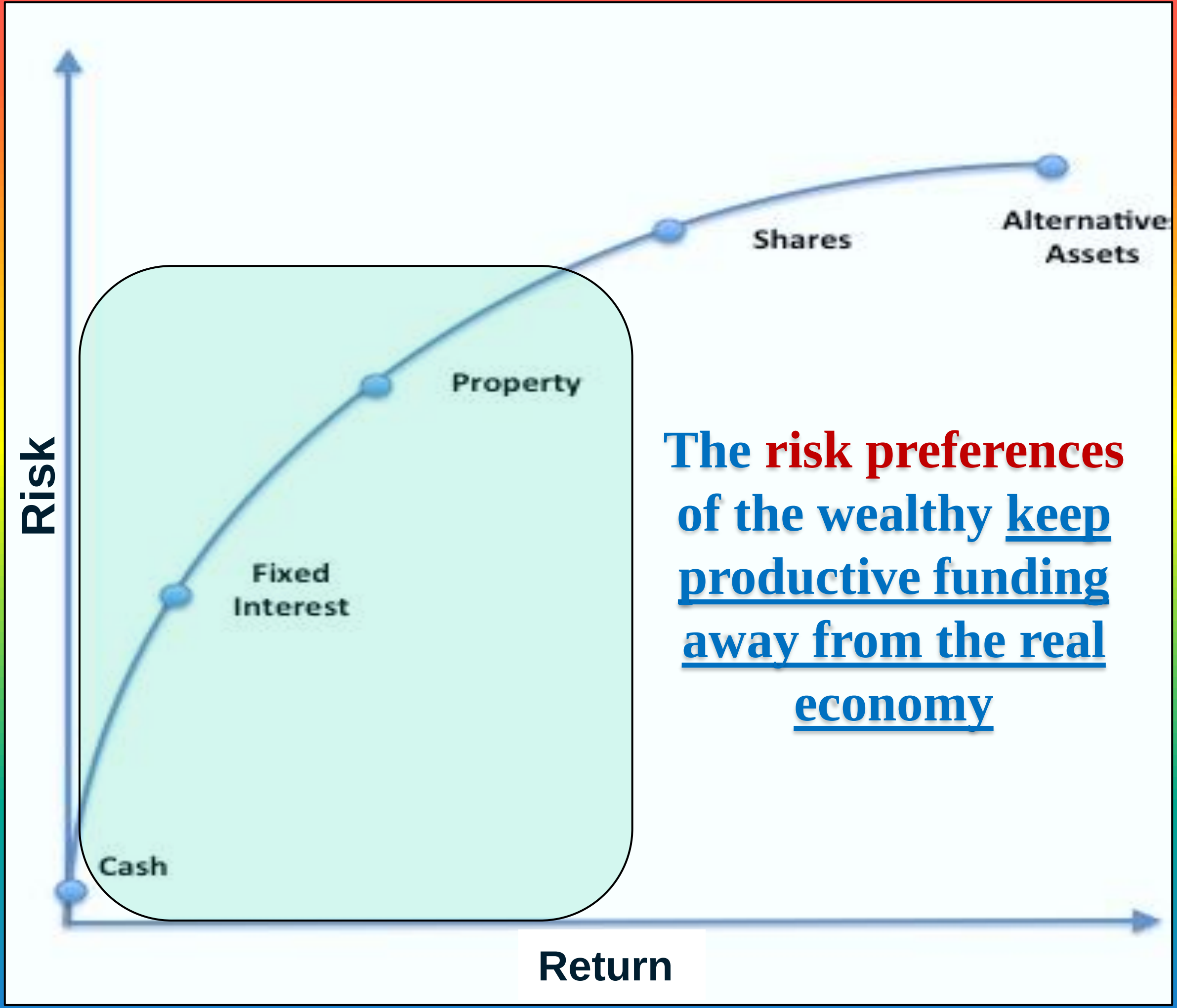
Utility and Risk Aversion

Risk Aversion starves the real economy from funds in investments that create wealth



The utility of a financial gain or loss is dependent on current wealth



The risk preferences of the wealthy keep productive funding away from the real economy

How the world of finance looks today

No relation to investments in the real economy and the creation of new wealth

World's Largest Investment Banks

Rank	Name	Founded	Country
1:	JP Morgan & Co	2000	US
2:	BoA Merrill Lynch	2009	US
3:	Goldman Sachs	1869	US
4:	Morgan Stanley	1935	US
5:	Citigroup	1812	US
6:	Deutsche Bank	1870	Germany
7:	Credit Suisse	1856	Switzerland
8:	Barclays	1690	UK
9:	Wells Fargo	1852	US
10:	UBS	1854	Switzerland

HEDGE FUND TOP FIVE
The top five hedge funds in America run more than $76 billion combined

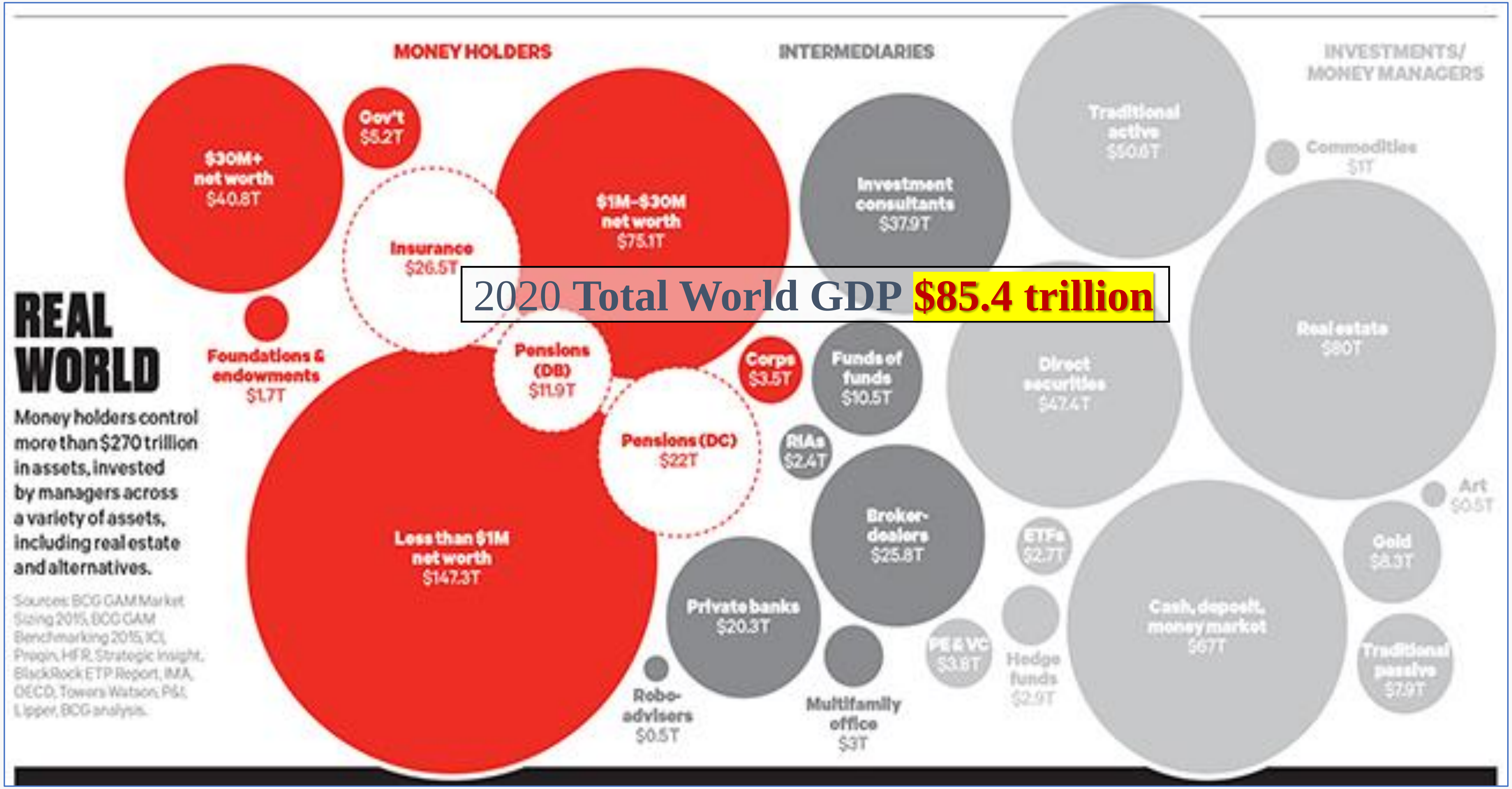
	YTD ASSETS	2004 ASSETS
Bridgewater Associates	$17.7	$12.4
D.E. Shaw	$17.1	$11.4
Goldman Sachs Asset Management	$15.3	$11.2
Farallon Capital Management	$13.8	$12.5
Caxton Associates	$12.3	$11.9

FIGURES IN BILLIONS
SOURCE: ABSOLUTE RETURN MAGAZINE

Top 10 Asset Management Firms

1 BlueRock (USA)	6 Allianz (Germany)
2 The Vanguard Group (USA)	7 J.P. Morgan Asset Management (USA)
3 UBS (Switzerland)	8 BNY Mellon Investment Management (USA)
4 State Street Global Advisors (USA)	9 PIMCO (USA)
5 Fidelity Investments (USA)	10 Crédit Agricole Group (France)

In 2015 **Money holders** controlled more than **$270 trillion** in assets invested by managers across a variety of assets, including real estate and alternatives.

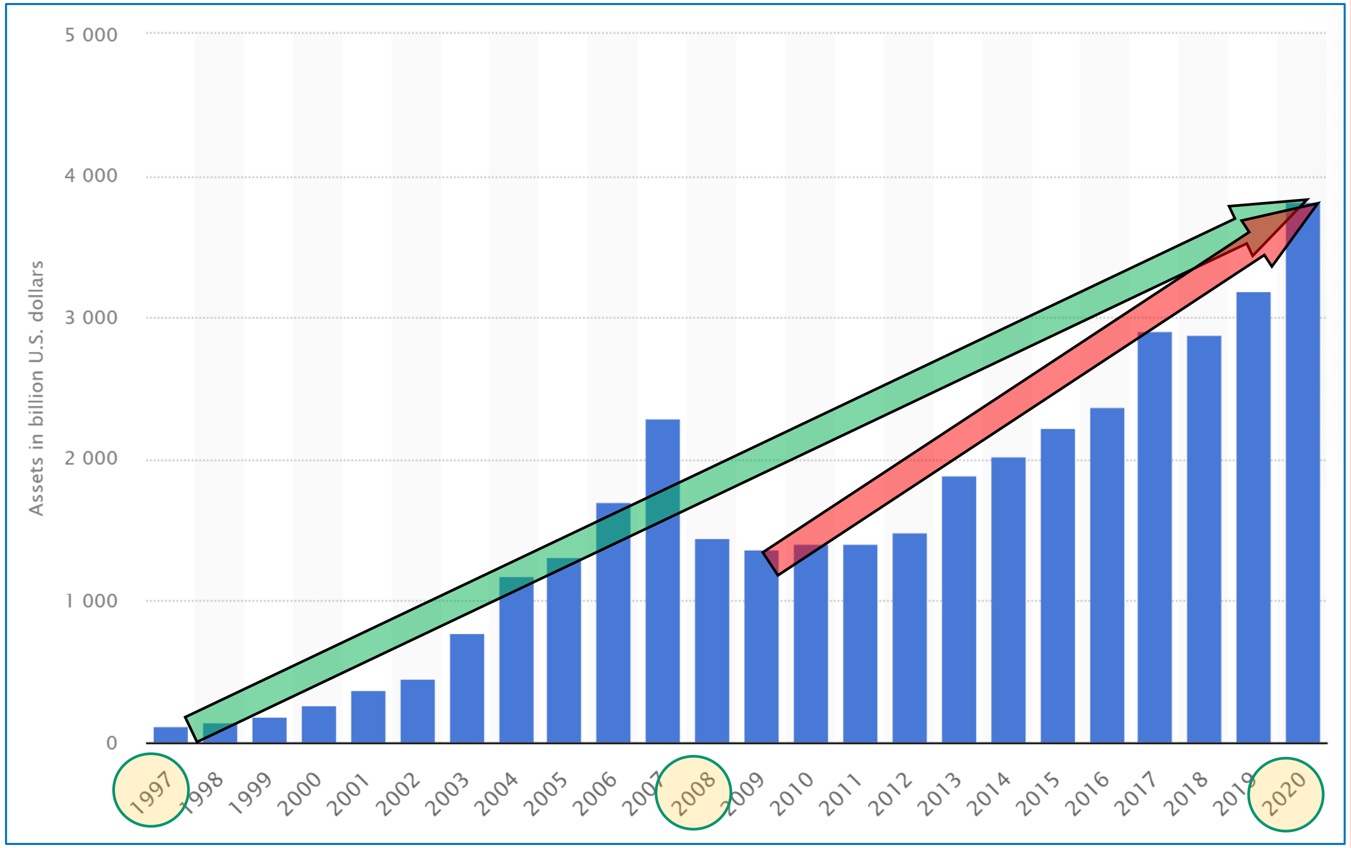


2020 **Total World GDP $85.4 trillion**

Source: Boston Consulting Group, BCG GAM Market Sizing, GDP 2020: IMF [World Economic Outlook Database (imf.org)]

Value of assets managed by hedge funds worldwide from 1997 to 2020

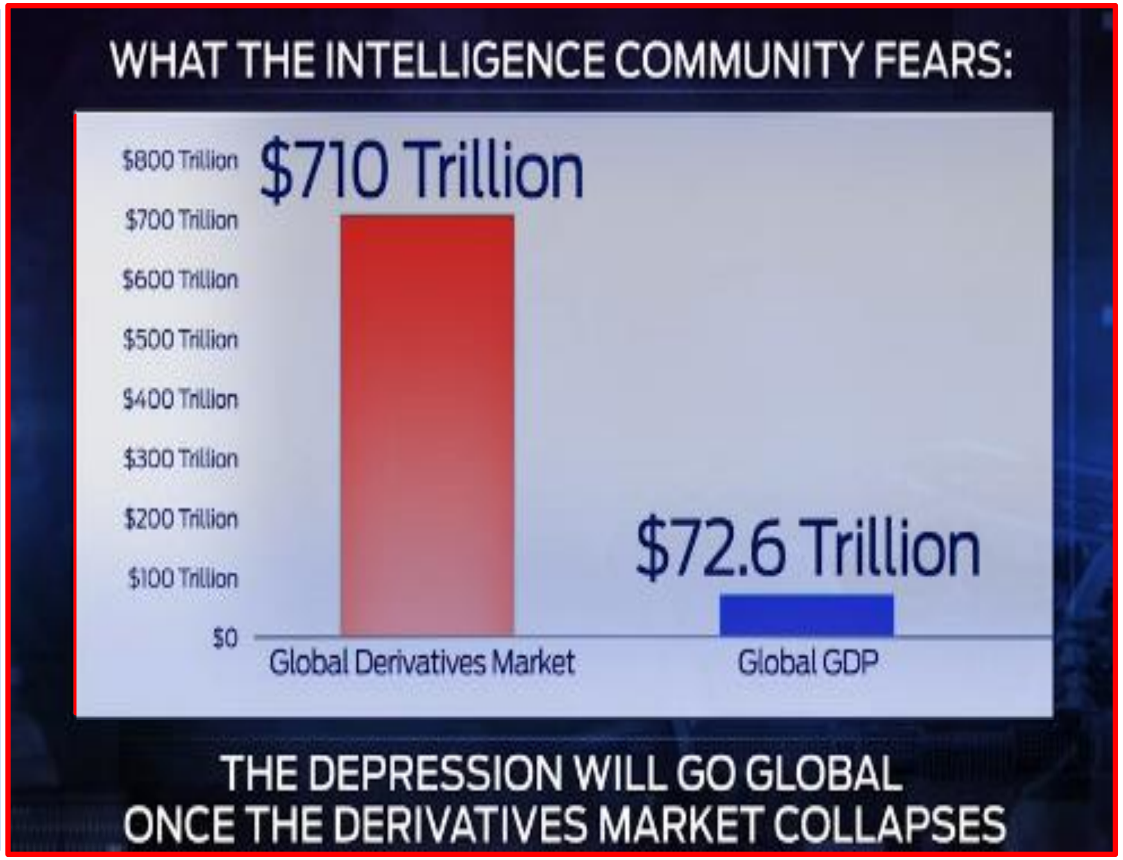
(in billion U.S. dollars)



Source: https://www.statista.com/statistics/271771/assets-of-the-hedge-funds-worldwide/

The global derivatives market is an accident waiting to happen

(in trillion U.S. dollars)



Two destructive separations that compromise the real economy

In the real economy, where wealth is created, **risk** and **return** are *inseparable*. One can mitigate, manage or even reduce the business risk. But any attempt to *completely detach* or even *hedge* it inevitably **stifles** and **impairs the real economy**.

Risk aversion by the wealthy and funds and **the depletion of entrepreneurs' equity** through **unproductive debt** combine to create **two destructive separations** in the real economy:

Separation of Risk from Return

The pursuit of a return without the risk amidst loosely regulated banks and financial markets systematically derails and compromises the real economy.

Separation of Ownership from Entrepreneurship

The depletion of equity through unproductive lending creates a separation of ownership from entrepreneurship causing the real economy to underperform.

Wealth accumulation and the separation of return from risk

Inequality is positively correlated to risk aversion. Increasing inequality means that the wealthy seek less risk albeit at lower return. The shift towards lower risk/lower return inevitably leads to a systematic transfer of existing assets from the many to the very few.

The **transfer of wealth** is facilitated by **a banking system** that grants loans primarily **on collateral** rather than **repayment capability**.

Amidst a slack bank regulatory and loose financial markets environment the banks are allowed, and even encouraged, to **sell these loans at vast discounts.**

This in turn enables intermediaries to fulfill the promise they make to their wealthy customers (individuals, insurance and pension funds, etc.) to come up with "***investment***" solutions that match their risk averse profile by providing them with a modest but basically **secured return** through **asset-backed securities**.

In addition to the transfer of assets, these so called "***investments***" (offered by Wealth managers, Hedge Funds and Investment banks) **decrease the overall return to the economy**.

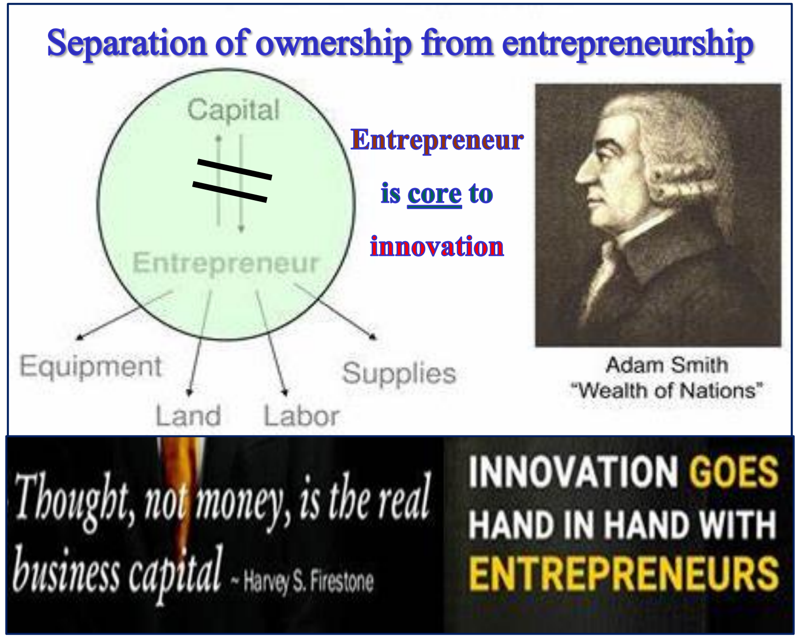
Depletion of equity and the separation of ownership from entrepreneurship

Beyond risk aversion there is a bigger problem created due to the ***depletion of equity*** that results from unproductive debt. That is the separation of ownership from genuine entrepreneurs who are now not credit worthy and ***no longer the main stakeholders in their business*** ventures.

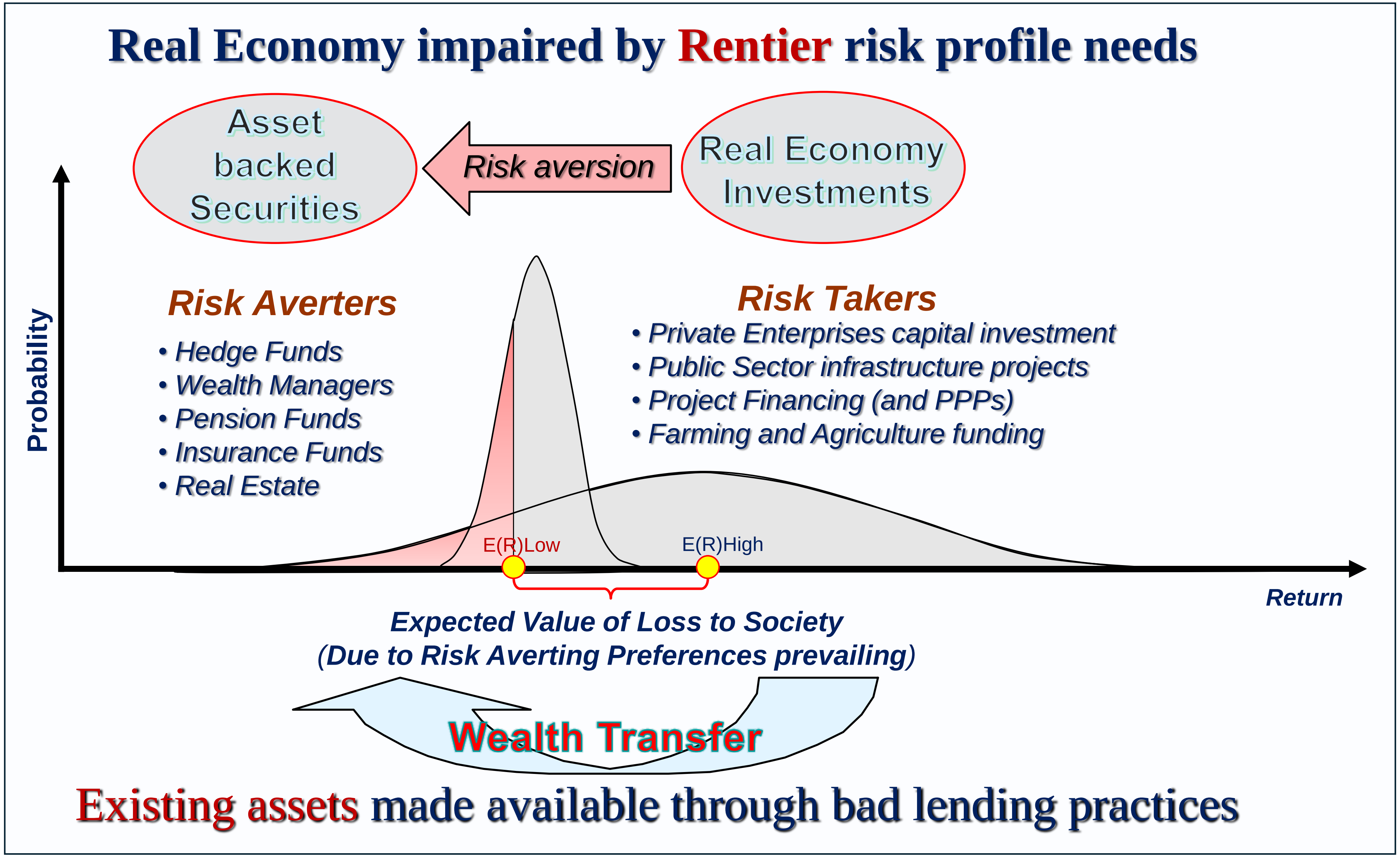
Entrepreneurs who are naturally endowed with the task and responsibility of making a business venture a success are rather **detached from the challenge** and the rewards of undertaking and managing the business risks.

Moreover because the genuine entrepreneurs may no longer be credit worthy, the drivers of a business on the field **assume roles of second fiddle** and questionable commitment to those who now own and control their companies.

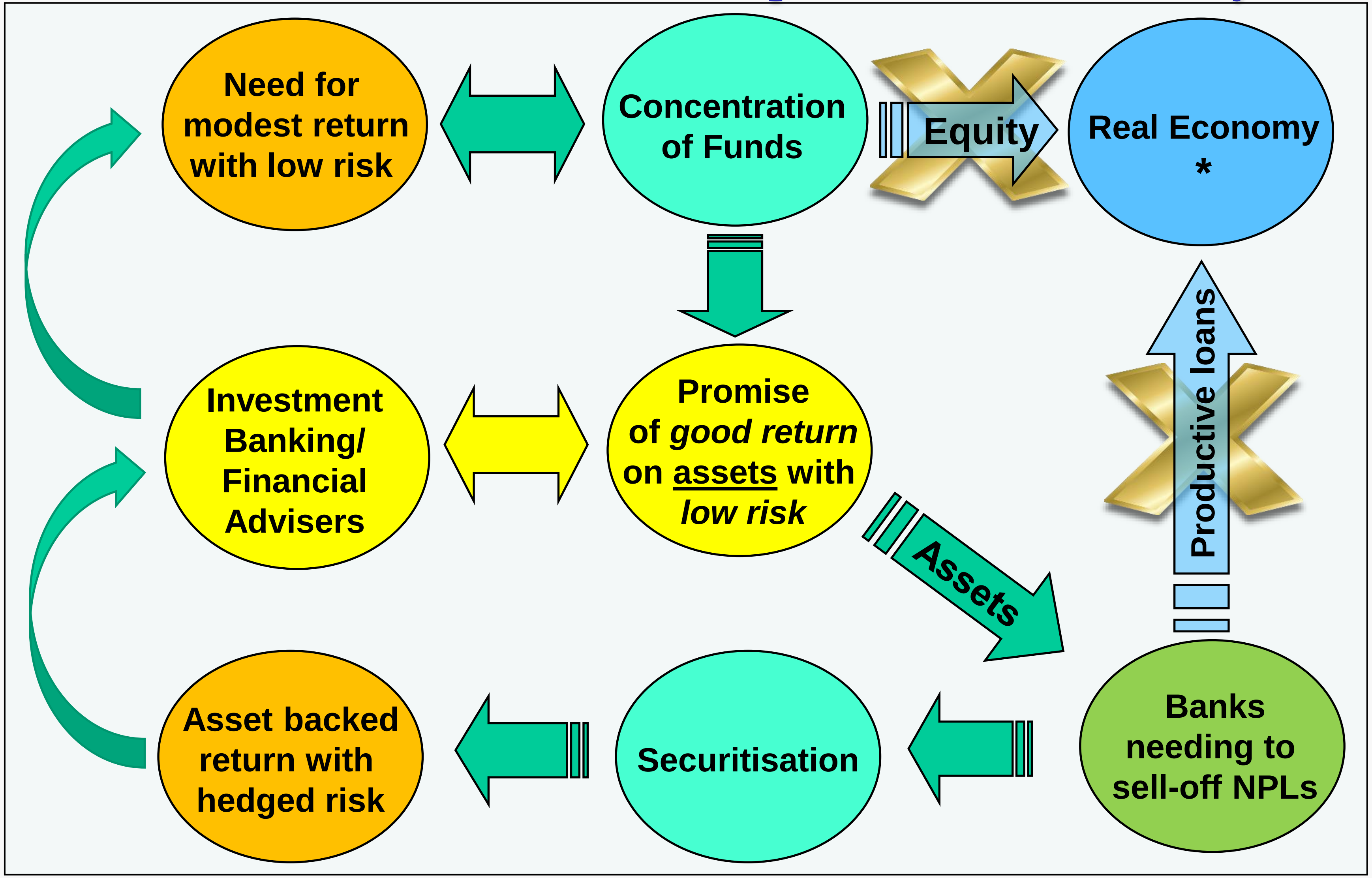
A reality of the concentration of capital is that **the decision makers of the business are no longer the true entrepreneurs**. The real stakeholders are those who barely understand the ins and outs of the business they now own.



Increasing inequality leads to transfer of assets and impairs the real economy



Concentration of money and the pursuit of a return without the risk derails and impairs the real economy

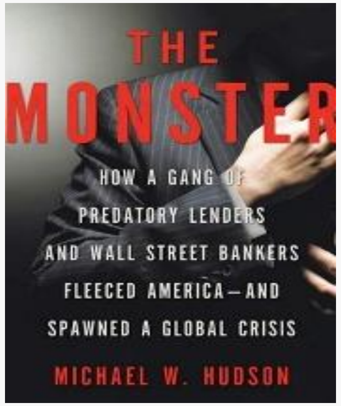


* *Use of funds in **share buy-backs** is not an investment in the real economy as it is often simply enhancing the financial wealth of company executives (compensation paid in share bonuses) and not deploying funds in investments in the real economy.*

Securitisation in a largely unregulated environment completes the wasteful cycle

- ***Securitisation*** *accommodates the run-away debt expansion mentality and at the same time the risk aversion preferences of wealthy investors.*
- *In the late 1990ies financial engineers showed that they could securitize any manner of asset. All that was needed was* ***a stream of asset backed income that could be quantified and predicted****. A bank's loan portfolio presented them with the raw material.*
- ***Asset-backed securities*** *offerings were growing rapidly bolstered by "an insatiable demand from investors".*

As noted by Michael W. Hudson in his book "The Monster":

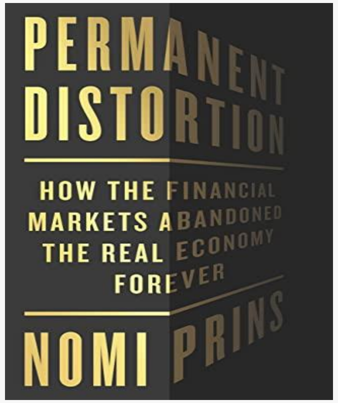


Michael W. Hudson

"..big pension funds and insurance companies loved securities backed by subprime loans and other assets ***because they offered high returns yet still boasted high marks for safety from rating agencies****."*

"Investors" keep ploughing cash *while the* ***investment banks are collecting large fees*** *for putting the deals together and* ***banks get a get-out-of jail card****.*

The ***real economy*** *and the* ***public at large*** *pay the price.*

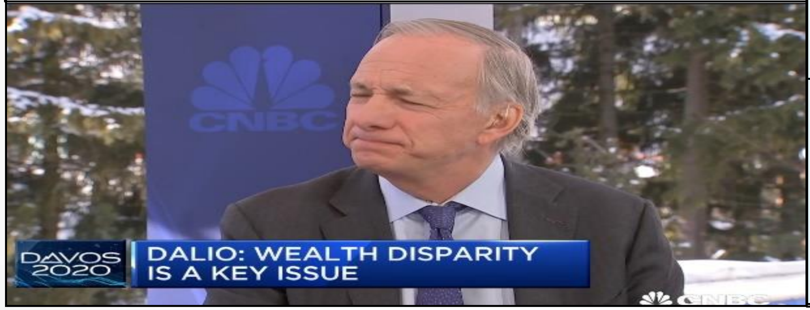


Nomi Prins

Permanent Distortion - How the Financial Markets **Abandoned the Real Economy Forever**

Even those who have benefitted immensely now begin to realise that this cannot continue without refocusing on the real economy

Ray Dalio is the billionaire founder of the world's largest hedge fund, Bridgewater Associates. Last year he proclaimed that American capitalism had to be reformed.



Ray Dalio says that everybody is missing the key metric for saving America's economy from inequality — productivity

- He told Business Insider that the US is headed in five years to an economic and social disaster on the scale of the era that saw the Great Depression and WWII unless it is able to take a bipartisan approach to reducing dangerously high inequality.

- To him, reforming capitalism means refocusing policymaking and financial regulation toward increasing productivity rather than short-term benefits.

Some Final Thoughts from Derryl Hermanutz:

*The West is sinking beneath the consuming waves of a **financialized post-production** system while others (notably China) are rising with their embrace of **real physical productive economics**. The Western model is one of **privately managed money issuance to acquire monopoly ownership of economic assets** by drowning asset-building enterprises and households in unpayable debt then **seizing their assets.***

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Downloadable from the Authors' page at Social Sciences Research Network:

https://papers.ssrn.com/author=262460

RiskEase - Risk Analysis Software: https://www.riskease.com/

Appendix

The three postulates of Applied Welfare Economics

The postulates are:

a) the competitive demand price for a given unit measures the value of that unit to the demander;

b) the competitive supply price for a given unit measures the value of that unit to the supplier;

c) when evaluating the net benefits or costs of a given action (project, program, or policy), the costs and benefits accruing to each member of the relevant group (e.g., a nation) should normally be added without regard to the individual(s) to whom they accrue.

Three Basic Postulates for Applied Welfare Economics: An Interpretive Essay
Arnold C. Harberger, Journal of Economic Literature, February 1971