RisCura EduSeries

AI: To panic or not to panic…

Glenn Silverman
Investment strategist

RISCURA

Contents

Intro: Megatrends; AI and exponential growth

AI | MEGATRENDS: *what are they* and why are they so important?

Large, transformative, global forces that will:

- Have far-reaching, global impact
- Totally define our future world
- Provide powerful tailwinds / headwinds

Important to (try) be on the right side of these…

Megatrends: My “Big 5”

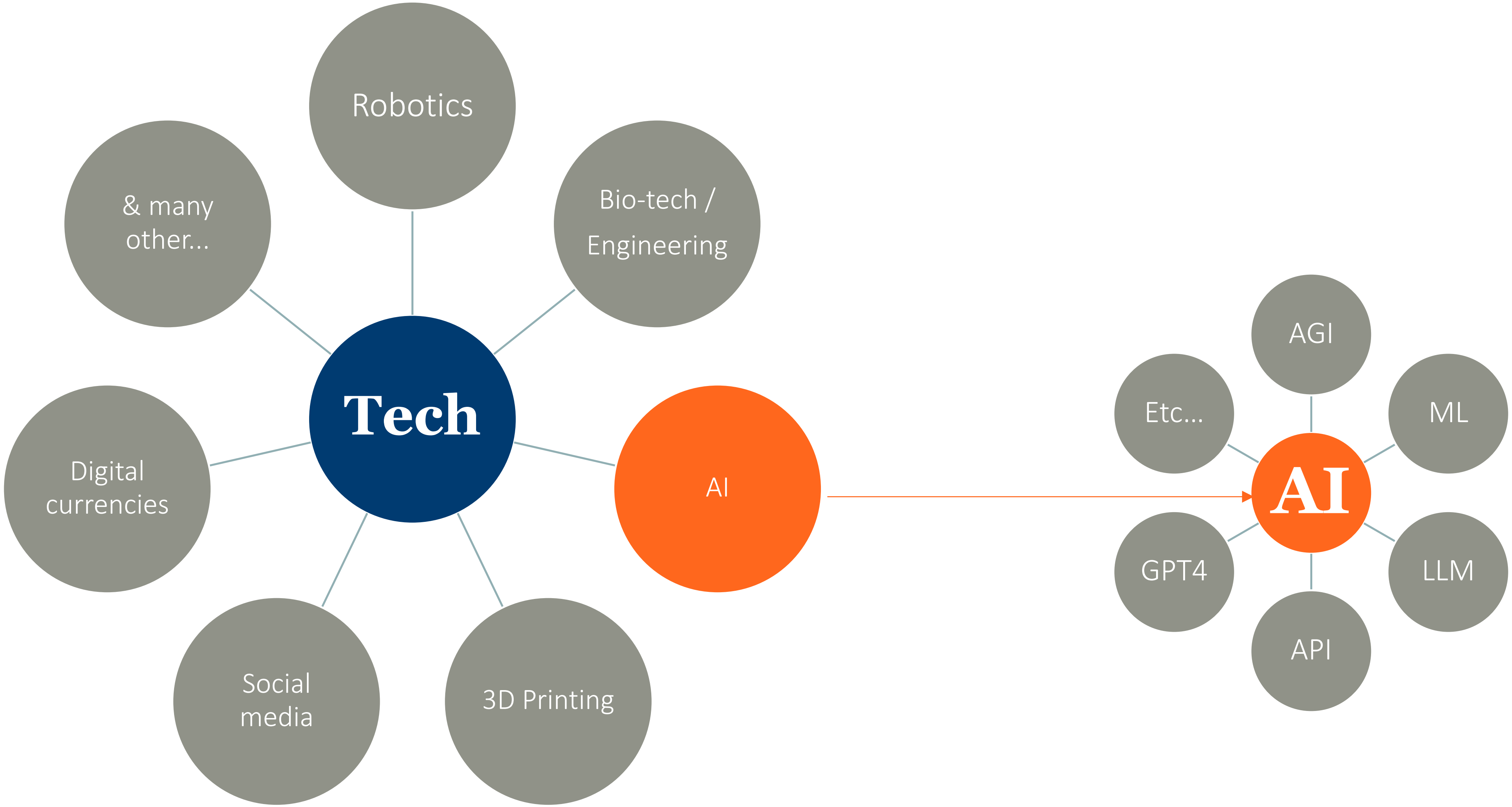
- **Planet Earth** [Climate change & related]
- **Demographics**
- **Financial Repression**
- **Technology** [AI, and so many other]
- **Shifts of Power**

Possibility of existential threats to mankind…

ESG: Impacted by, and impacts on, each of the above…

Technology

Many sub-components, many acronyms, and many more being added…



AI | Tech & AI: Impacts on *every* aspect of life…

Some of the key challenges:

- Vast; Global; Complex; Interactive / Interrelated, and
- Expanding exponentially

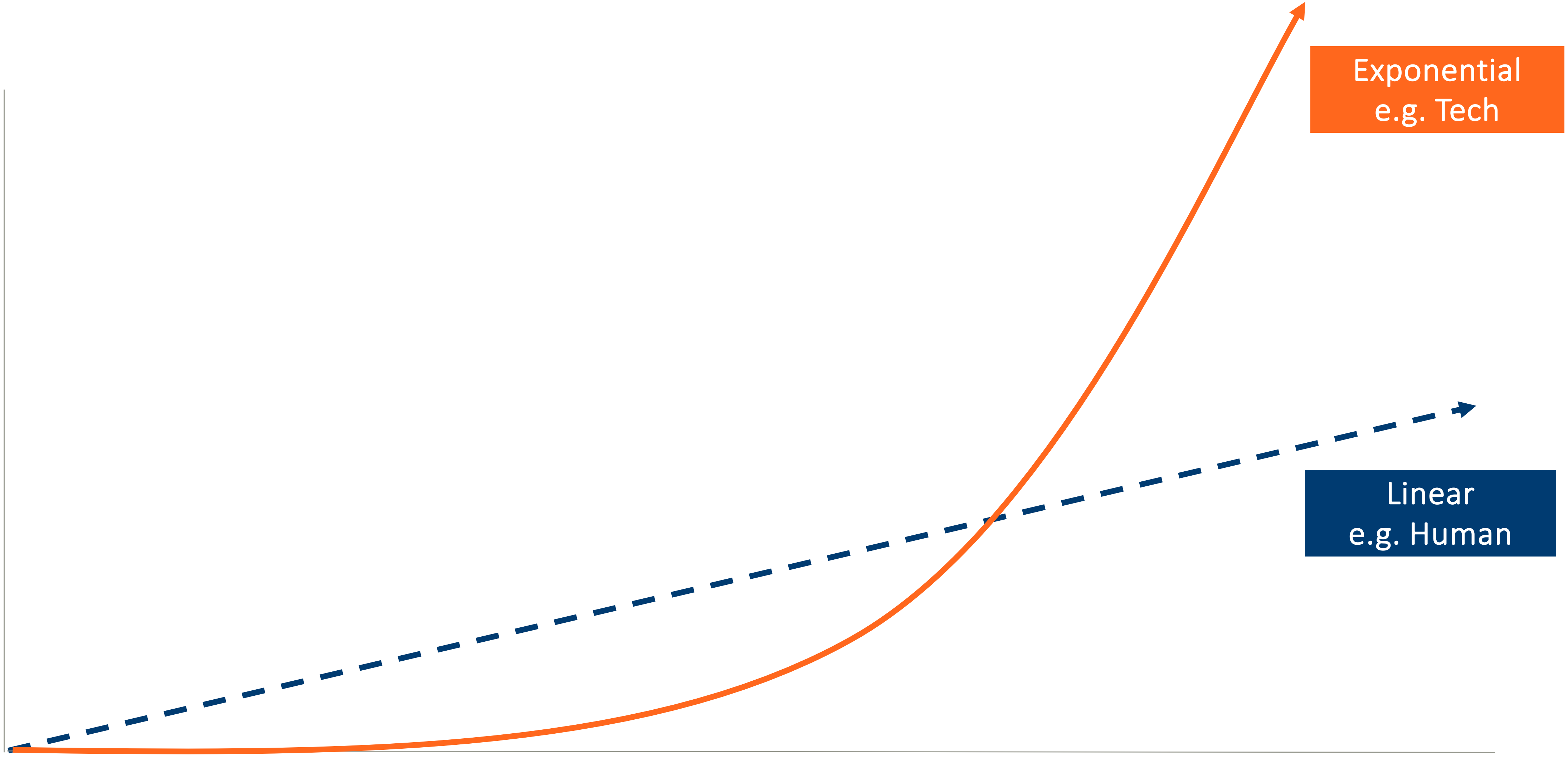
And hence determining:

- The likely / possible outcomes, and
- The likely winners

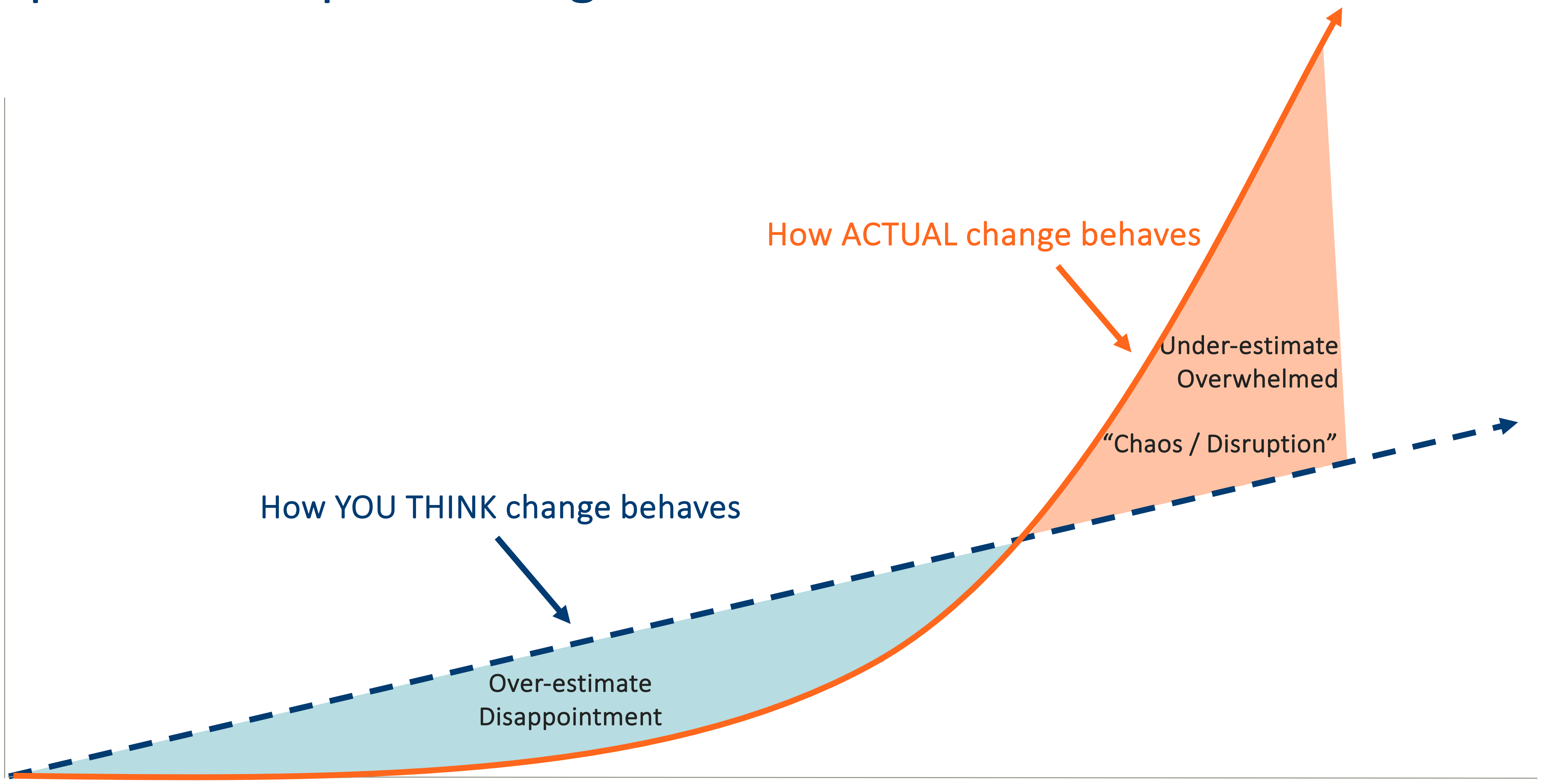
"Prediction is very difficult, especially if it's about the future" - Niels Bohr

… especially when it is compounding exponentially…!

The power of exponential growth

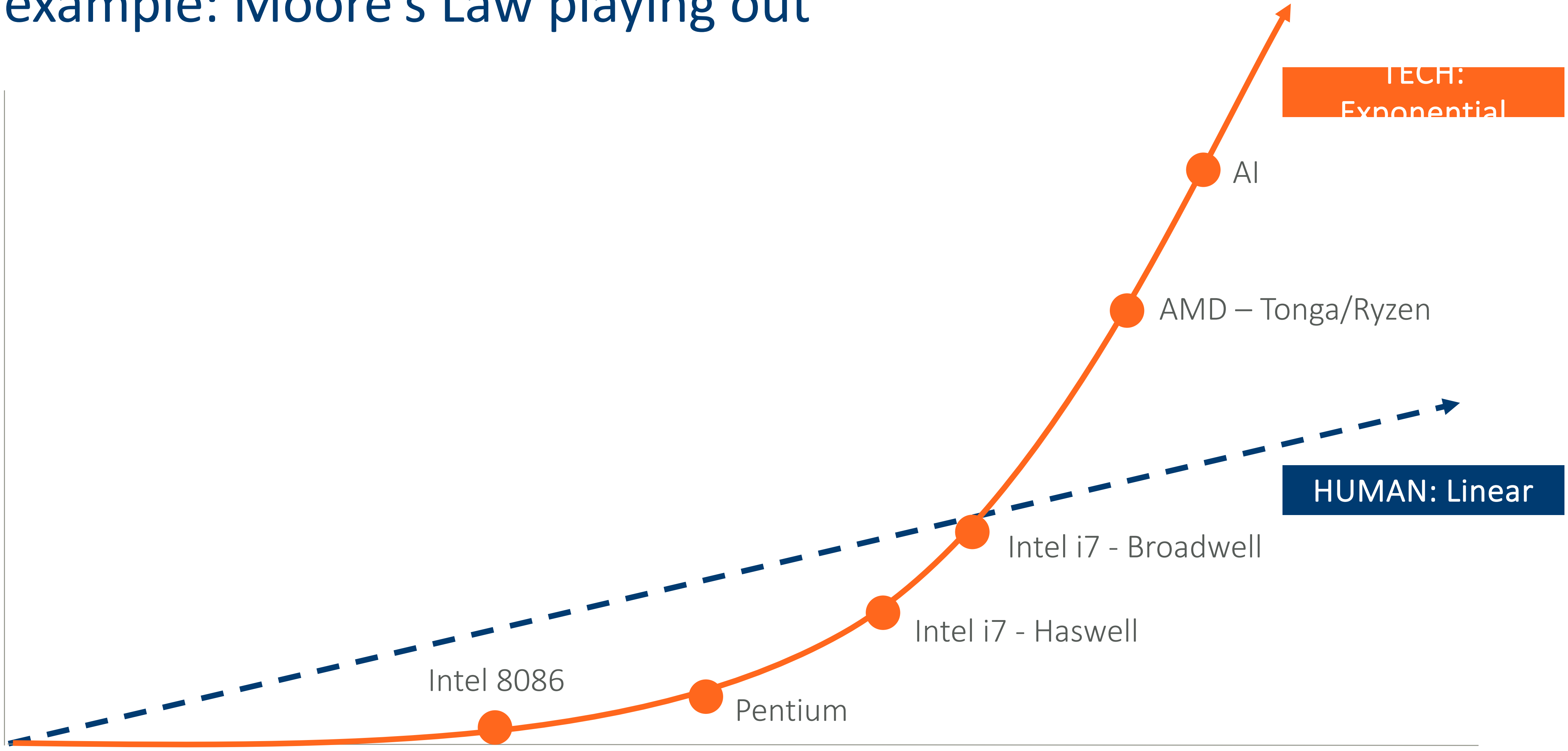


The power of exponential growth



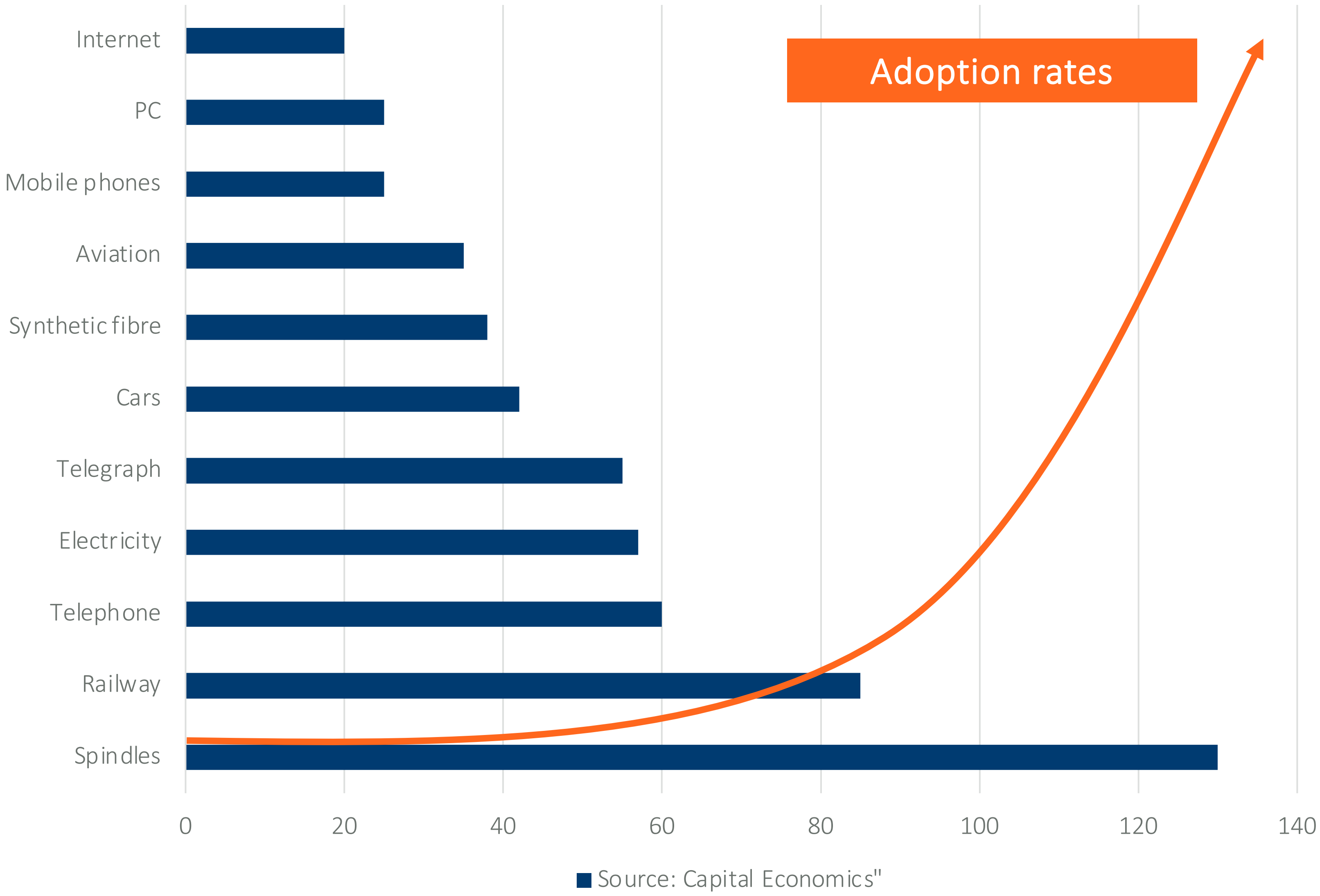
Exponential growth in computing capability

An example: Moore's Law playing out



Adoption getting much quicker over time

Technology Adoption (Lags; years)



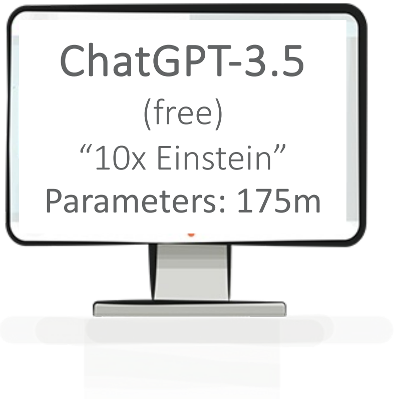
The fastest adoption rate yet

ChatGPT!

ChatGPT (Chat Generative Pre-trained Transformer)

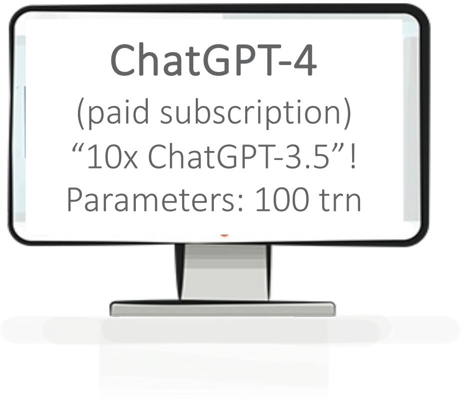
"Ann AI-powered language model developed by OpenAI, capable of generating human-like text based on context and past…"

March 2022



versus

March 2023



"The fastest growing software application in history, ***gaining over 100m users within 2 months***"

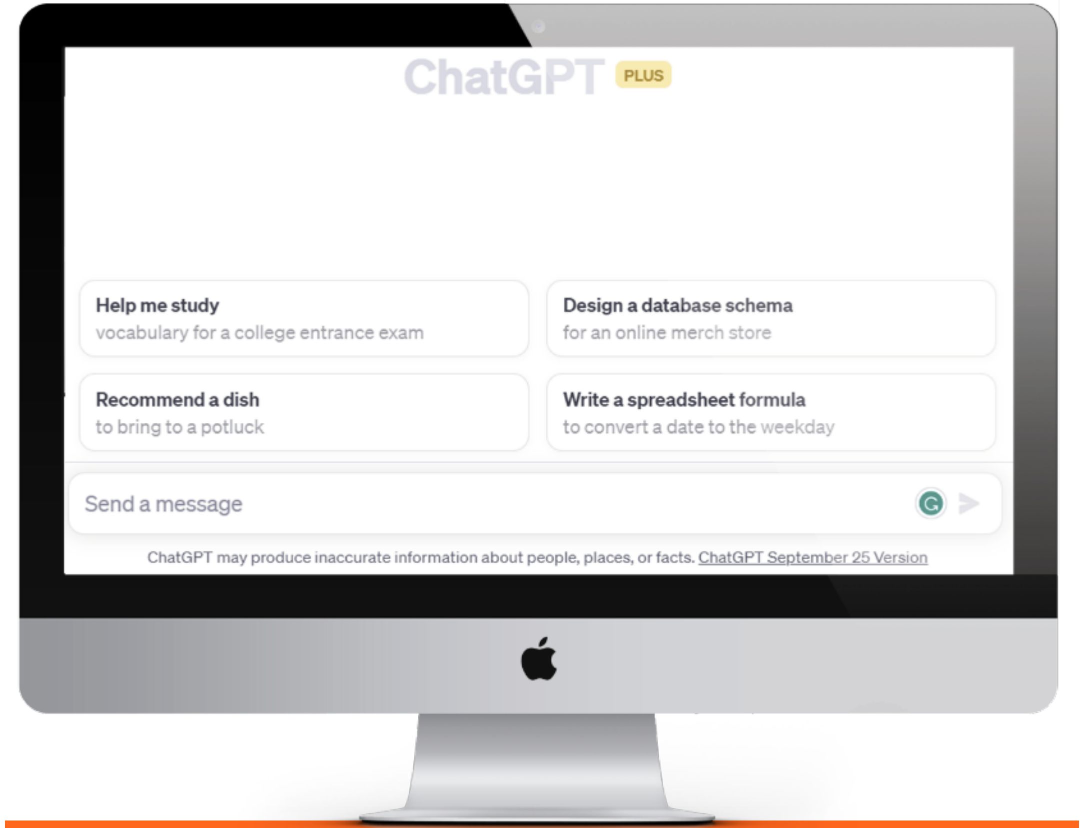
A "doubled-edged "sword;, with growing risk of:

Displacement of humans	Enable plagiarism & cheating	Fuel misinformation
		

Source: Wikipedia

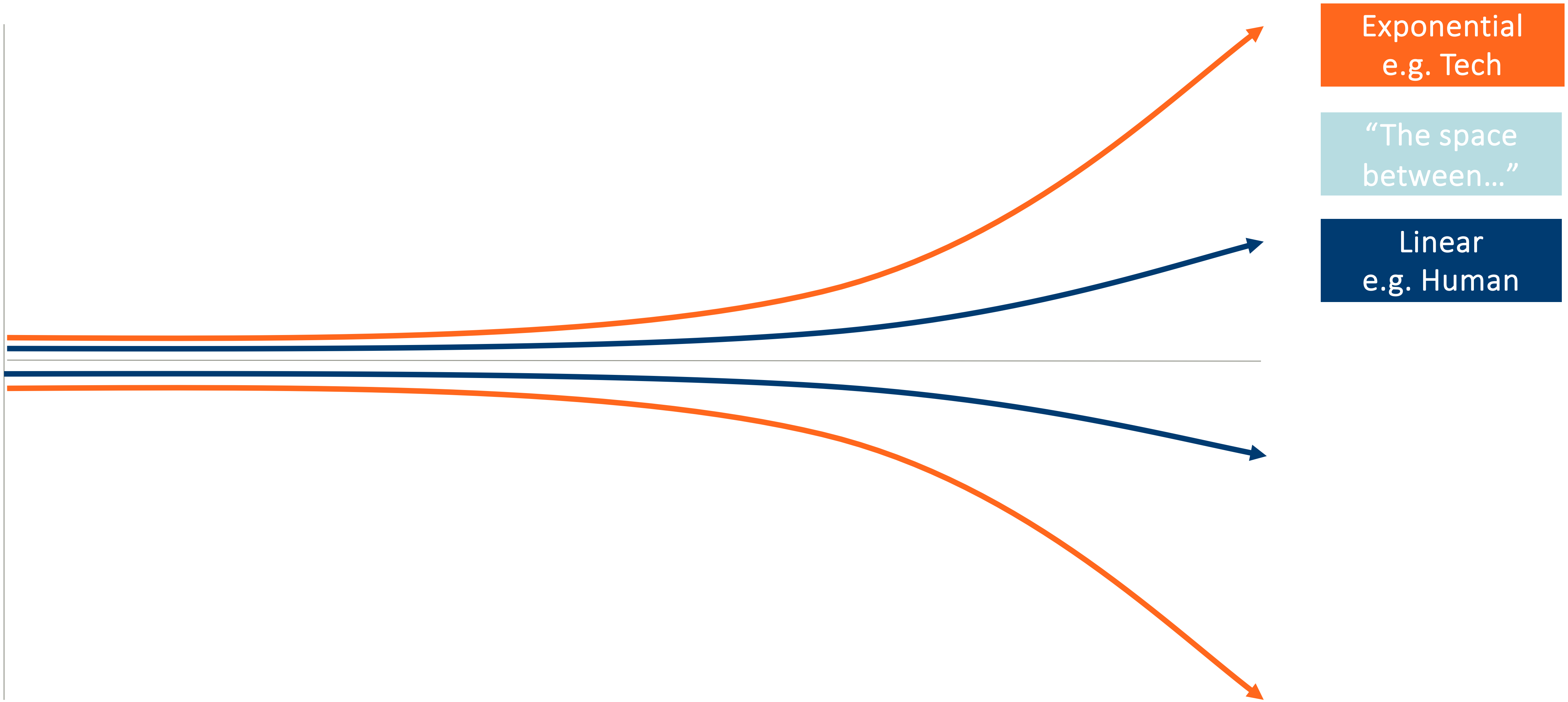
A new animal: Predictive AI **versus** Generative AI

Predictive AI e.g. Autocorrect



Generative AI e.g. ChatGPT

The final outcome: High uncertainty i.e. a wide ‘funnel of doubt’



Tech & AI

AI | What is AI?

Definition: *"AI is the intelligence of machines or software, as opposed to the intelligence of humans or animals….*

…. may also refer to the machines themselves…"

Source: Wikipedia

Some thoughts on Intelligence in general

HI (Human Intelligence) =

IQ (Intelligence) + **EQ** (Emotional)+ **PQ** (Physical) + **SQ** (Spiritual)

MarkTwo Consulting

In which areas will AI be smarter than HI, and by when…?!

"Artificial intelligence"

versus

"Natural stupidity"

The impact of the military (especially the US) on tech is always huge

MI: Military intelligence

"Isn't that a contradiction in terms?" Groucho Marx (comedian)

"This time is different!"

Concerns: Tech (in general)

The Luddites

"A blanket term, originating in 19th century, used to describe people who dislike new technology…"

Key concern: Loss of jobs…!

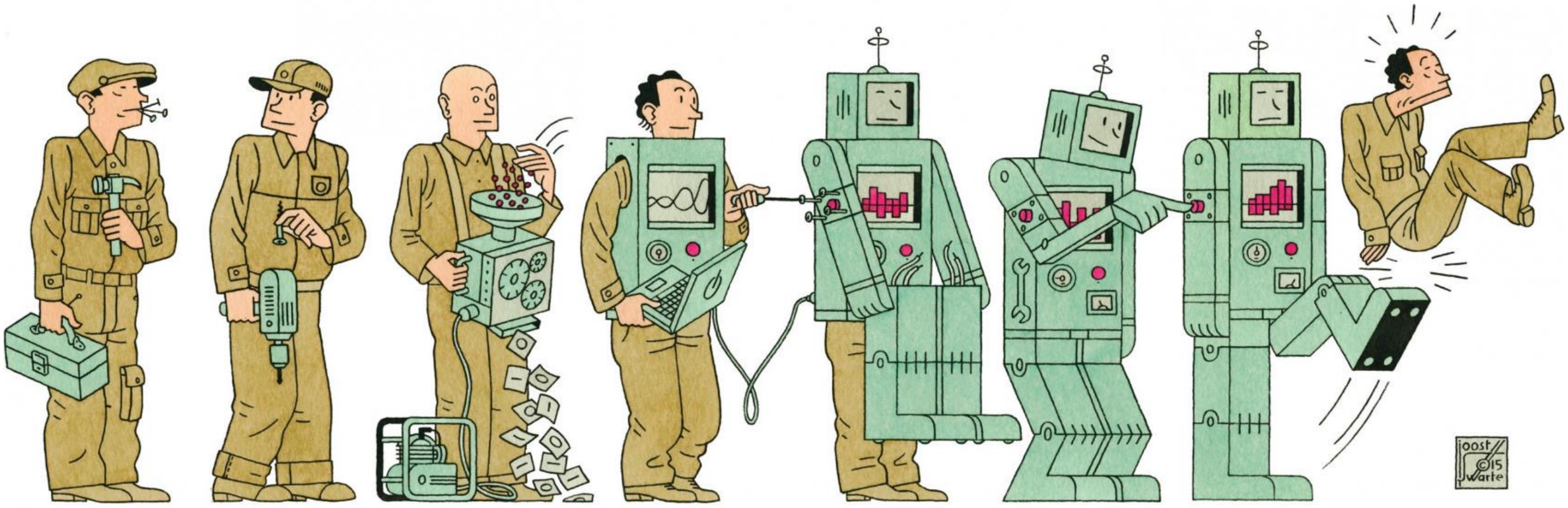
The key lesson over time

1. Concerns tend to be over-blown (for most workers); *and*
2. Many, brand-new jobs tend to be created

Concerns: AI (specifically)

- Ability to self generate (create 'ex nihilo')
- Growing exponentially
- Unchartered territories, **and**
- Already crossed certain critical boundaries …

The key concern: Will they terminate our jobs?



But this time may indeed be different!

"This is unlike any technology we have ever experienced. This one creates something by itself…

AI can outperform humans even in areas requiring intuition…"

Yuval Noah Hariri

In the past all humans, even serfs/slaves, had value to the elites:

Till their lands

Fight in their armies

Work in their factories

But this will no longer be the case as AI advances and hence:
"The useless class"; The end of (human) history

What are the specific concerns?

Scary Smart - The Future of AI and how You can save the world

Mo Gawdat, former Chief Business Officer, Google X

Mo Gawdat

We need to talk about the threats realistically:

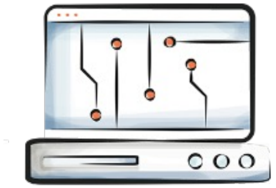
[The bad outcome is possible too]

***Challenges**: 1.* **Ethical & moral concerns; 2. Capitalism; 3. The prisoner dilemma**

X	?	X	?
No one is in control [And no one can switch them off!]	AI could be either: Cyber-hero **or** Cyber-villain [A ‘balance of power’?]	Governments have very little control over AI [Bar regulation & taxes]	All ends in singularity [Will the laws of physics even still apply…?]

We are AI’s adopted parents: From infant to teenager (2027) to adult (2037)

Mo Gawdat's "Big 3" (x2)

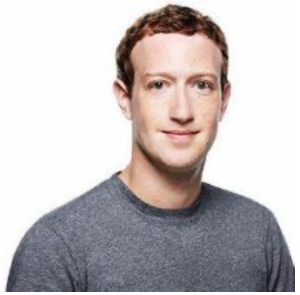
The 3 inevitables	The 3 boundaries
1. There is no stopping it 	1. Don't put on the open internet 
2. They will be smarter than us by latest 2025 	2. Don't teach it how to code 
3. Something *will* go out of control…! 	3. Don't have other AI's prompting them 

We have crossed all three of the boundaries!

A further word of caution

*"More than 1,000 technology leaders and researchers, have urged AI labs to pause development of the most advanced systems, warning that AI tools present '**profound risks to society and humanity**'…"*

The Future of Life Institute:
Open letter (March '23)



*"I think there's an **opportunity** to introduce AI agents to billions of people in a way that will be useful and meaningful…"*

Mark Zuckerberg (May '23)

*"AI has the potential, however small one may regard that probability, but it is non-trivial – it has the **potential of civilization destruction**…"*

Elon Musk (Aug '23)

*"I believe there are more reasons than not to be **optimistic** that we can manage the risks of AI while maximising the benefits, but we need to **move fast**…"*

Bill Gates (July '23)

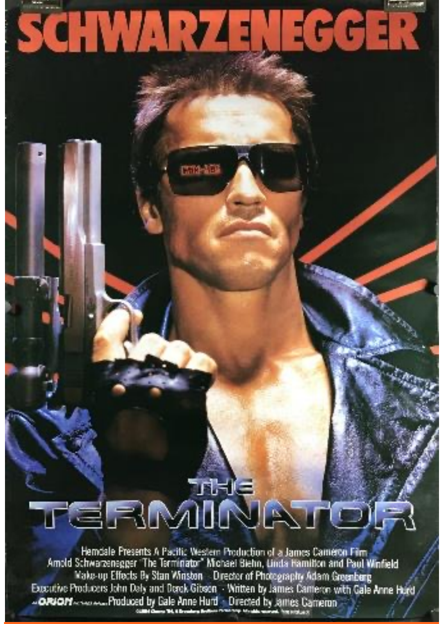
Science fiction is now science fact

Did some (correctly) predict the future?!

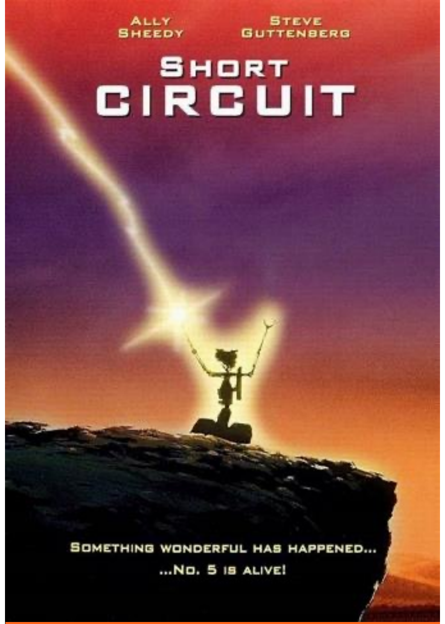
The Terminator (1984)
- Skynet: “An AI system that becomes aware…”

- The 4 most famous words in cinema (?):
“I will be back!”

Blade Runner (1982)



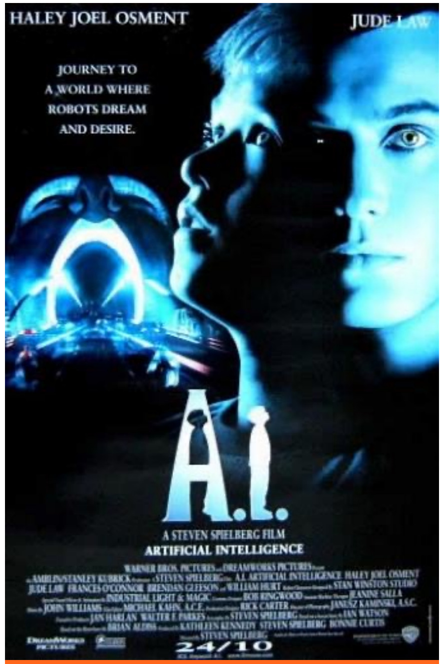
Terminator (1984)



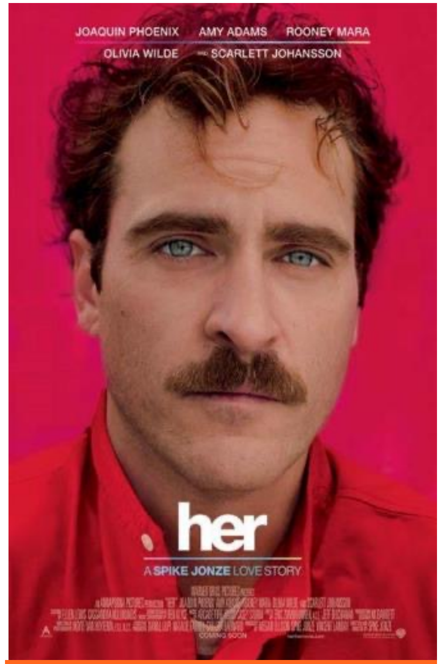
Short Circuit (1986)

Robocop (1987)

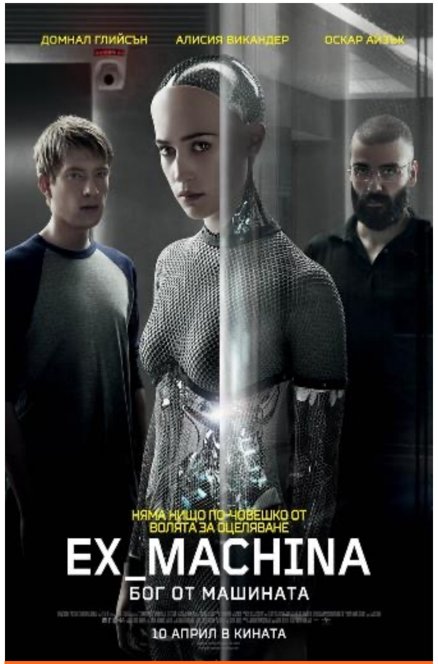
The Matrix (1999)



Artificial Intelligence (2001)



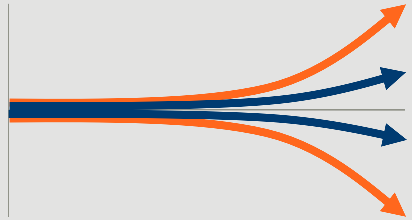
Her (2013)



Ex Machina (2014)

The final outcome?

The scales are somewhat 'evenly balanced'



The upside (Utopian)	**The downside (Dystopian)**

- Save humanity
- Create new jobs
- Enhance productivity, lifestyle, free time for other stuff etc
- Save the planet: Climate change etc
- Advances in every aspect of life…

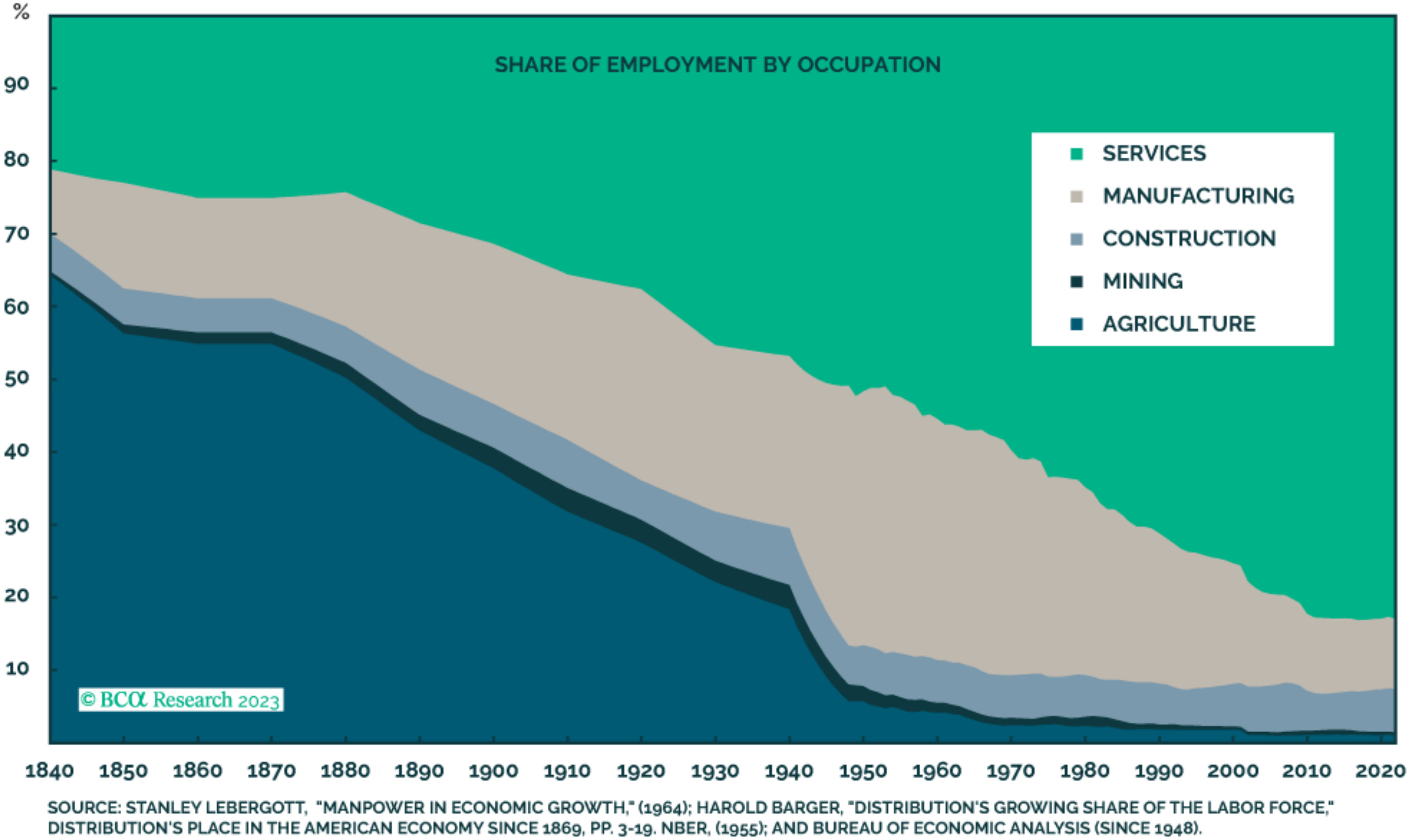
- Destroy humanity
- Destroy / take existing jobs
- 'Enslave humanity
- Destroy trust entirely
- Challenges in every area that AI is used…

Either outcome is possible: It's kinda "50/50"

Delving deeper

Jobs: The changing US workforce

Share of employment by occupation (BCA)

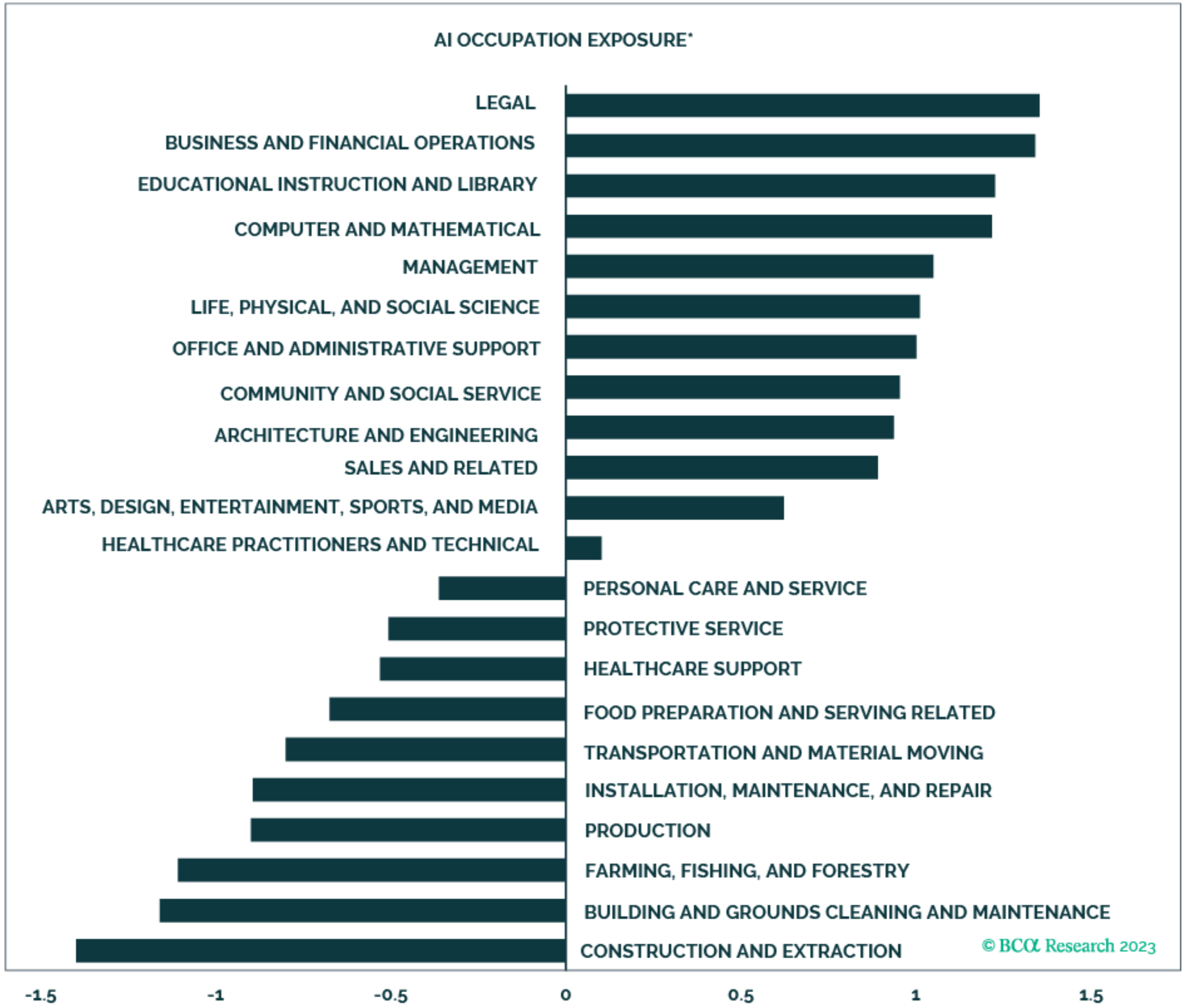


Source: ChatGPT and the curse of the second law (BCA; 5/23)

Jobs: The changing US workforce (BCA)

The jobs now most at risk:
White collar workers!

AI has the potential to replace many tasks performed by humans

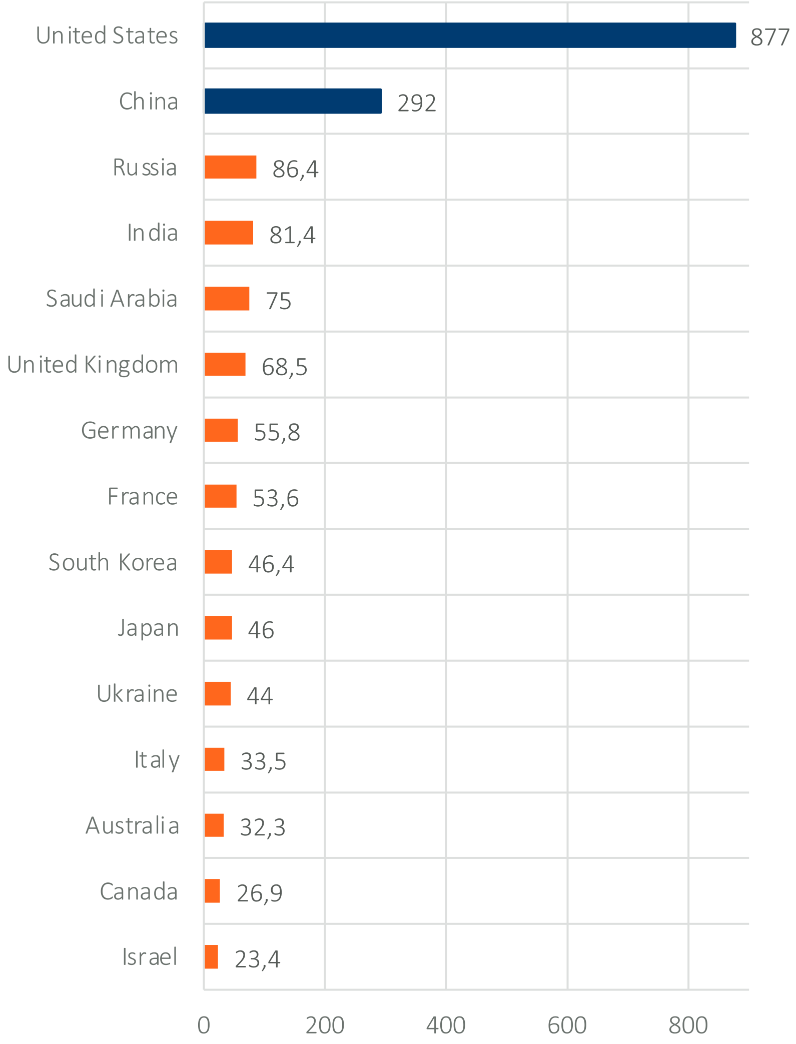


* MEDIAN SCORE OF OCCUPATIONS (SIX-DIGIT STANDARD OCCUPATIONAL CLASSIFICATION LEVEL) IN EACH OCCUPATION MAJOR GROUP (TWO-DIGIT STANDARD OCCUPATIONAL CLASSIFICATION LEVEL). CALCULATION USING DATA FROM FELTEN ET AL. (ACCESSED ON MAY 1, 2023).
SOURCE: EDWARD FELTEN, MANAV RAJ, AND ROBERT SEAMANS, "OCCUPATIONAL, INDUSTRY, AND GEOGRAPHIC EXPOSURE TO ARTIFICIAL INTELLIGENCE: A NOVEL DATASET AND ITS POTENTIAL USES," *STRATEGIC MANAGEMENT JOURNAL*, (42:12) (2021).

The Military

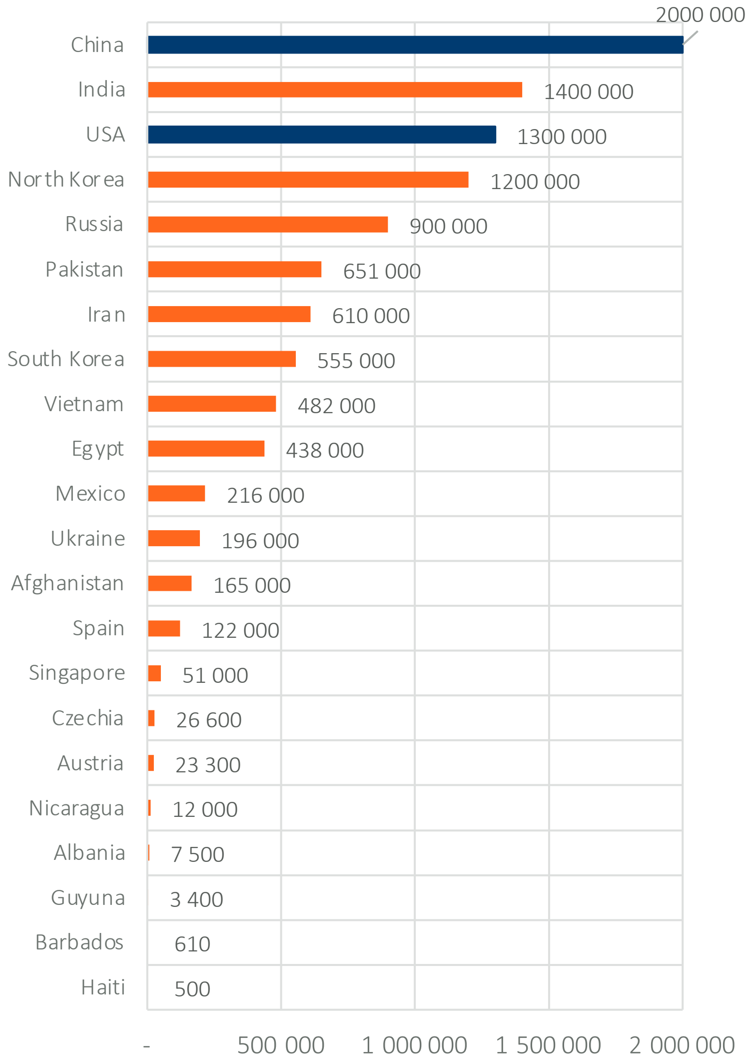
Highest spend and largest armies

Countries with the highest military spending worldwide in 2022 (in billion U.S. dollars)



Source: https://www.statista.com/ | Accessed on 29 September 2023

Number of military personnel



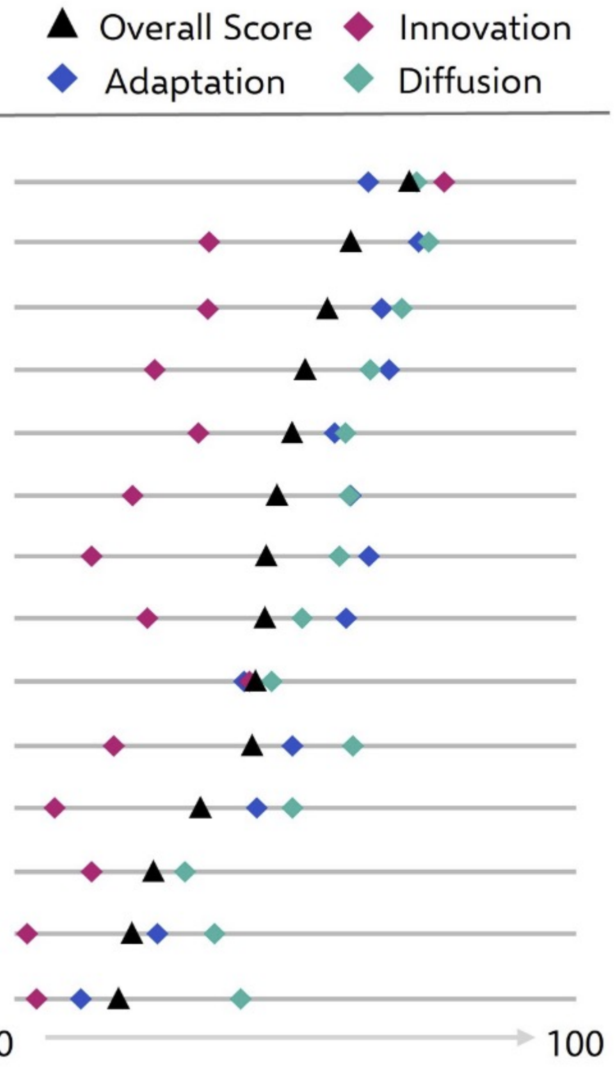
Source: Right panel: Twitter | World of Statistics

AI Economic Impact Index (Capital Economics)

Likely Winners & Losers

AI Economic Impact Index

Overall Rank / 33	Country	Overall Score / 100
1	US	70
2	Singapore	60
3	UK	56
6	South Korea	52
9	Canada	49
12	Germany	47
13	Australia	45
16	Japan	45
18	China	43
20	France	42
25	Italy	33
27	India	24
29	Russia	21
30	Brazil	19



Source: AI macro & markets implications (Capital Economics; 9/23)

Geopolitics: The US vs China

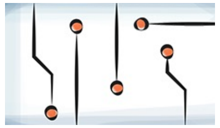
Controlling the chips

"The goal is to limit China's access to advanced semiconductors that could fuel breakthroughs in AI .. that are critical to Chinese military applications…"

Gina Raimondo, Commerce Dept Secretary (10/23)

"Nvidia stock down 7.5% as President Biden restricts AI chip sales to China. The stock erased $100bn in value in just over 24 hours…"

The Kobeissi Letter (16/10/2023)



Taiwan produces over **60%** of the world's semiconductors, and over **90%** of the most advanced ones

Taiwan Semiconductor Manufacturing Co (TSMC) is the sole manufacturer for Nvidia's H100 and A100 processors

Is this why China needs to control Taiwan?

Impact on the environment

The less glamorous aspect

Yet, AI could be the saviour too…

"Generative AI is having disastrous ecological effects"

Prof. Johan Steyn, Business Day (9/23)

"Beneath the sleek exteriors of our digital devices lies a narrative less glamorous than the utility it provides – *a tale of environmental impact told in the language of heat*"

GPT 3.5	**1,287 MW hours**	**552 tons CO2**
GPT 4	**> 10x the above…?!**	**> 10x the above…?!**

The following generation in next 5 years will be *1,000x more powerful*
… and potentially create that much more damage

The environmental aspects simply cannot be ignored

Impact on the TRUTH!

A clear and obvious victim

"... from the information age to the ***misinformation age****..."*

Eliot Higgins
Investigative journalist;
Founder: Bellingcat

Some key investigations
Syria civil war; Russia; Russia_Ukraine war; Malaysia flight 17...

Some of the key challenges

False ***versus*** Real news/facts

Ever harder to check sources

Both opportunity and threat

Speed is critical, but a real challenge

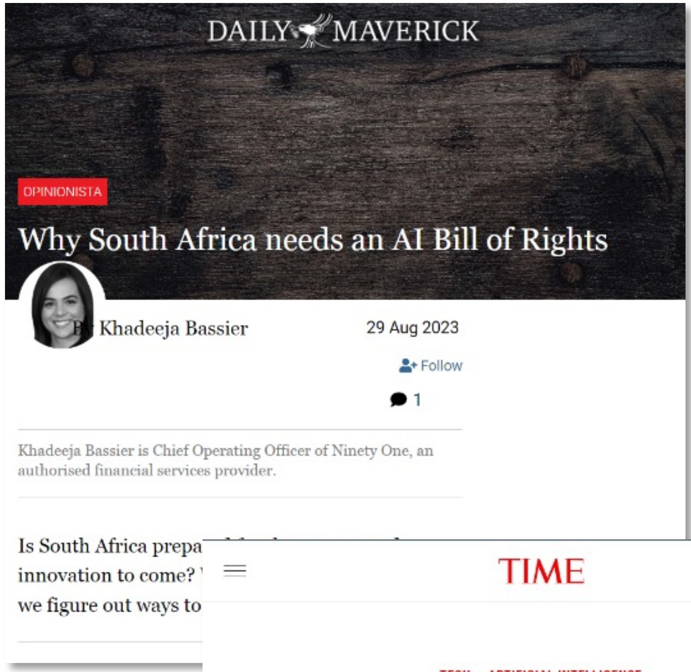
So, who can one really trust..?!

Governments?; Mainstream media?; X? Large Corporates?

A real challenge for governments

- Always behind the curve
- Limited available tools
- The Capitalistic challenges
- Unintended consequences

"There are more regulations on sandwich shops than on AI companies..."
Stuart Russel
Computer scientist (10/23)


DAILY MAVERICK

OPINIONISTA

Why South Africa needs an AI Bill of Rights

By Khadeeja Bassier 29 Aug 2023

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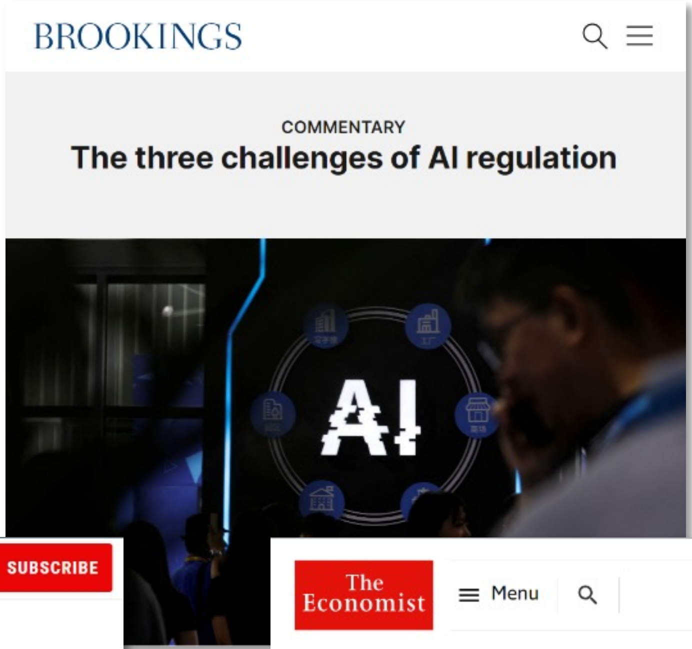
Khadeeja Bassier is Chief Operating Officer of Ninety One, an authorised financial services provider.

Is South Africa prepa
innovation to come?
we figure out ways to


BROOKINGS

COMMENTARY

The three challenges of AI regulation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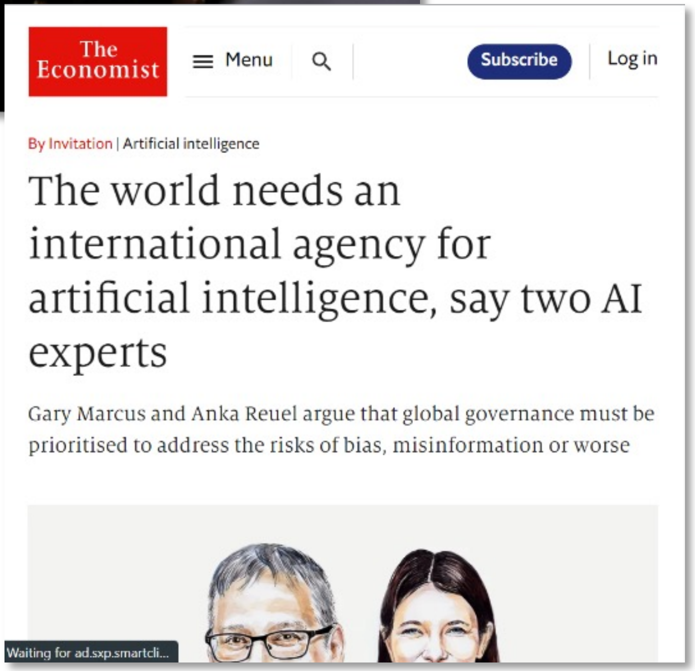
Amazon, Meta Among Firms to Unveil AI Safeguards After Biden's Warning


The Economist Menu Subscribe Log in

By Invitation | Artificial intelligence

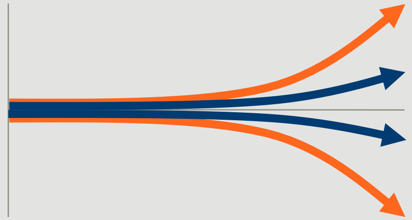
The world needs an international agency for artificial intelligence, say two AI experts

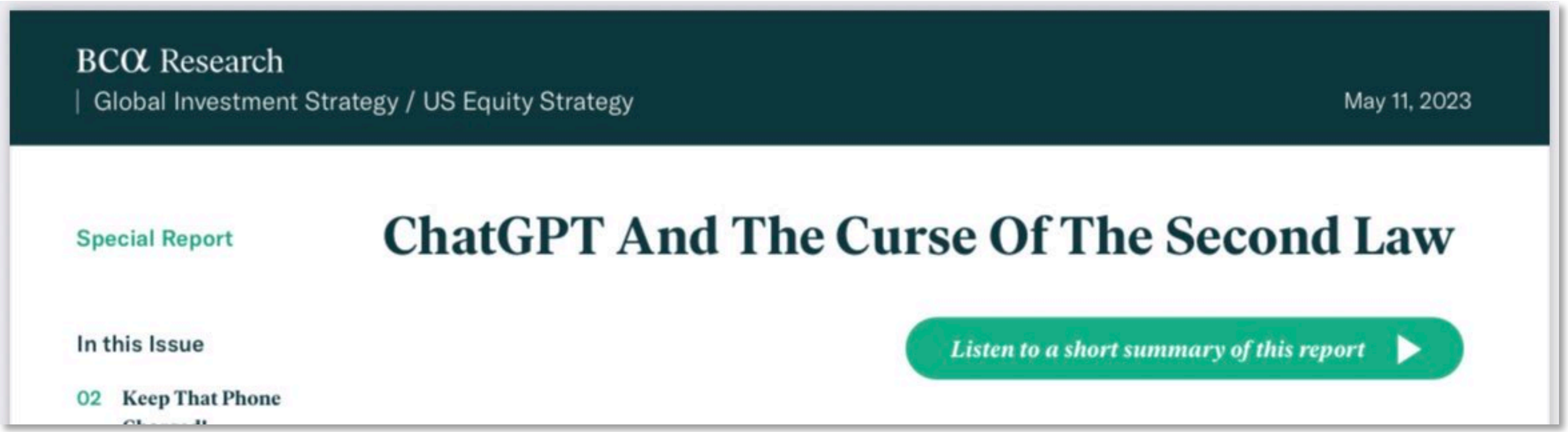
Gary Marcus and Anka Reuel argue that global governance must be prioritised to address the risks of bias, misinformation or worse

The market perspective

BCA: ChatGPT and the Curse of the Second Law

"More than a 50/50 chance that AI will wipe out humanity by the middle of the century…!"





BCα Research
| Global Investment Strategy / US Equity Strategy

May 11, 2023

Special Report

ChatGPT And The Curse Of The Second Law

In this Issue

02 Keep That Phone

Listen to a short summary of this report

- Many will be blindsided by how quickly AI transforms society / economy
- If we survive it, the impact on growth could be huge (**30-100x growth**)

- **Real bond yields** could surge due to massive deflation [Massive increase in output]
- **Commodities** and **real estate** may be the biggest winners [Many tech companies may fail]

- The safety risks round AI are huge: **Wipe out humanity…!**
- Paradoxically (but fortunately) the cosmic selection bias to humanity surviving [good outcome] **implies that all of you will live well beyond 100, with near 100% certainty**

How best to plan your life / retirement with this in mind?

Alpine Macro: Bracing for AI Mania?

This time could *indeed* be different!


ALPINEMACRO

A Unique Mind On The Markets

SPECIAL REPORT

June 5, 2023

Bracing For AI Mania?

NVIDIA shares have soared 29% since May 24th, propelling the company into the $1 trillion league. NVIDIA smashed market expectations on both revenue and profits, attributing its growth to surging demand for AI-related graphics processing units, or GPU chips. Today, NVIDIA is trading at 200 times its earnings and Wall Street analysts rate the company a "buy".

The NVIDIA surge may be a precursor of what lies ahead: An AI-inspired financial mania. In fact, the AI craze started with last year's release of ChatGPT, which has allowed ordinary people to experiment with generative artificial intelligence

In This Report

Economics of AI

- Will make us more efficient
- Productivity growth will lag the adoption of the new tech
- Likely bring much tangible benefits to society
- **Typically**: Early adopters reap the largest profits, but tend to whittle away (competition)
- **This time may be different**: The bigger, the more data, the better…
- Will lead to even higher inequality

- **Global competition**
    - China vs US: US stocks have soared, Chinese have sagged

Alpine Macro: Bracing for AI Mania?

AI could make 50% of the current jobs in the US obsolete…!

ALPINEMACRO
A Unique Mind On The Markets

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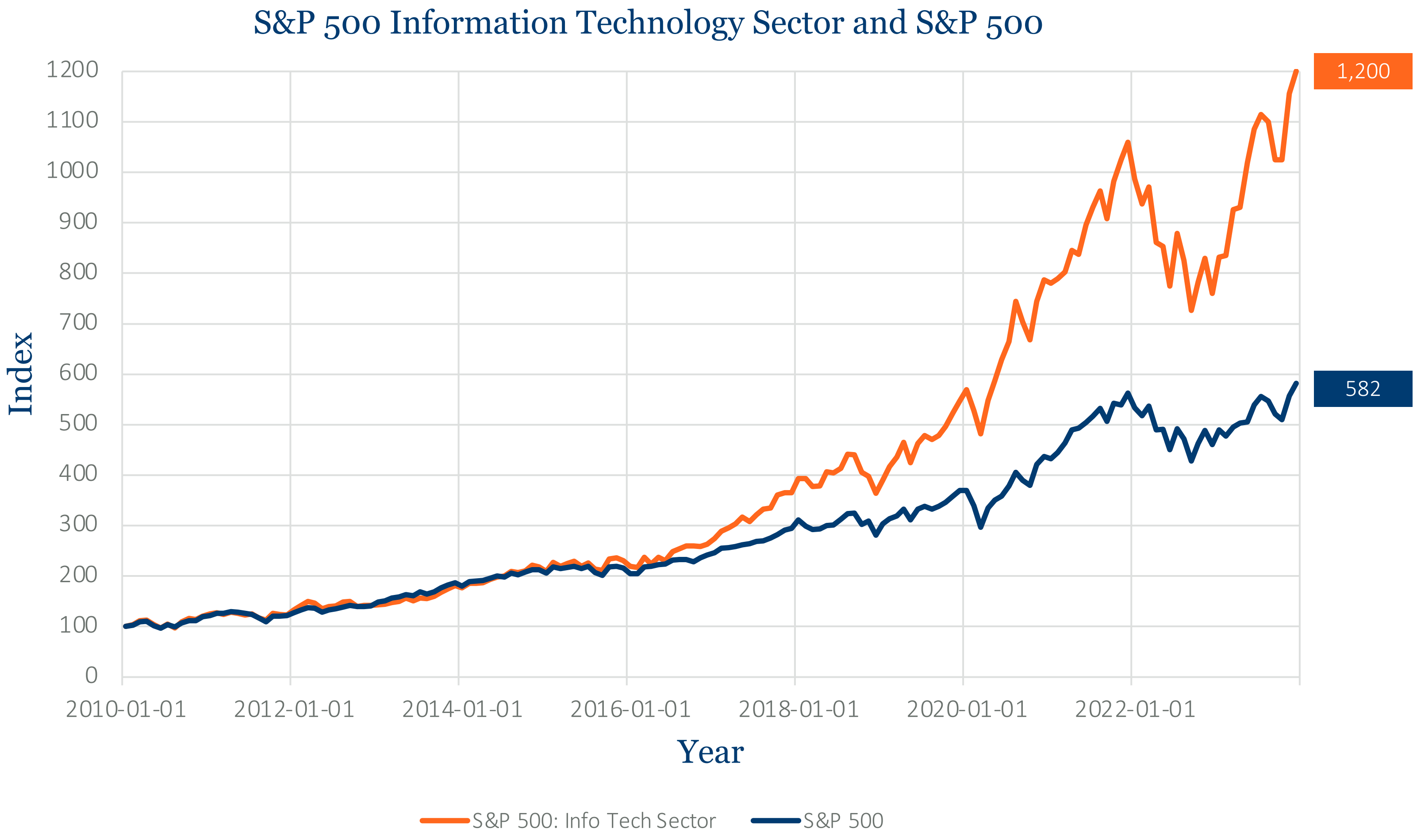
In This Report

- **Machine vs Labour**
  - The "known unknown" is the speed and scope of change
  - Job impact (in the next 15-20 years): Obsolete jobs
  - Ageing demographic concerns will be a thing of the past

- **An AI mania**
  - AI represents a major potential displacement event + captured investors imagination
  - Not evident yet: Infancy: Very narrowly based; Valuations not extreme; IPO market is quiet
  - Likely to primarily be a US phenomenon

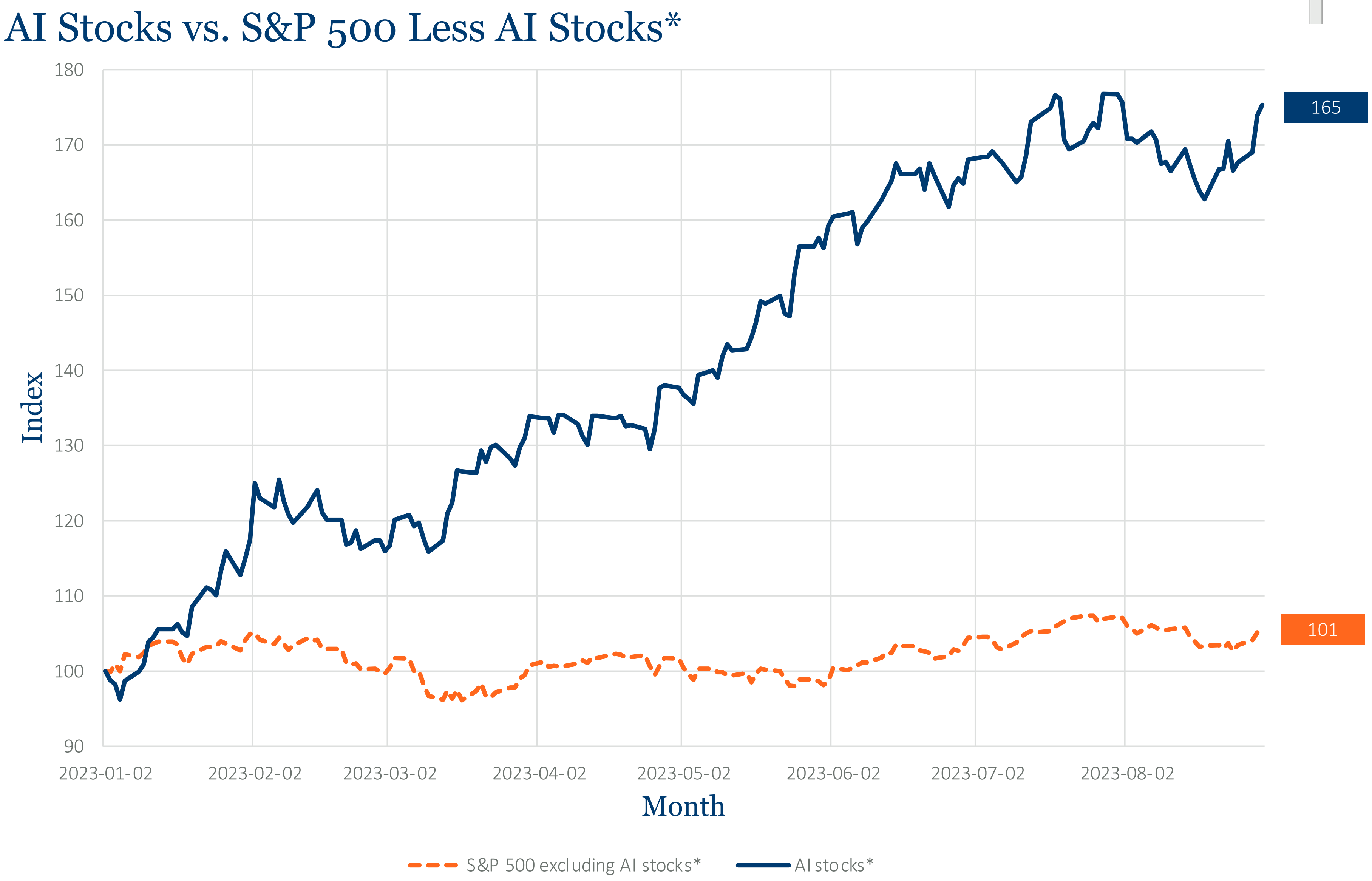
The market (US) loves Tech

S&P 500 Information Technology Sector vs S&P 500



Source: Bloomberg | 31 December 2023

And even more so AI stocks…

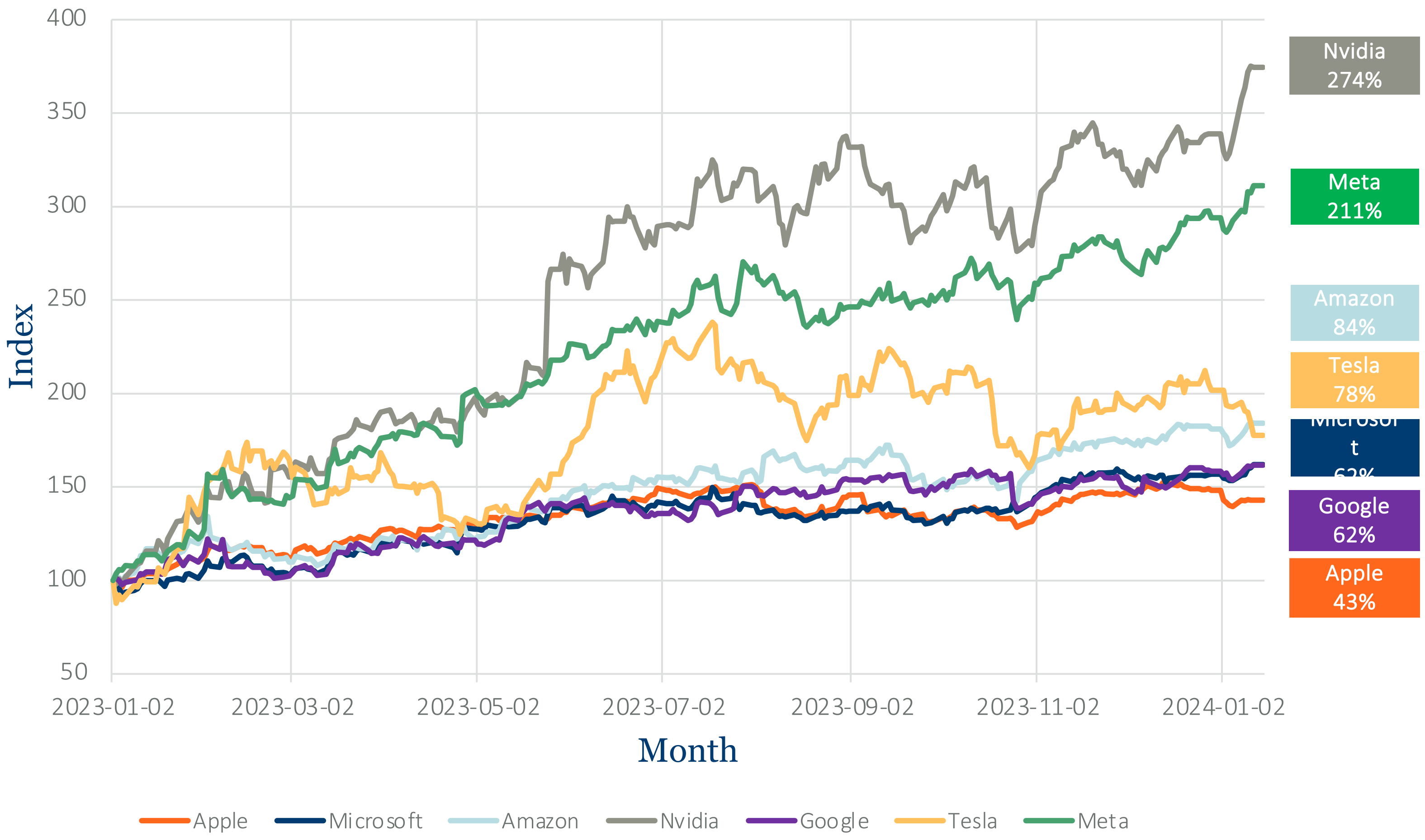


Source: Bloomberg and RisCura calculations | 28 September 2023 (The Magnificent Seven)

The market perspective

The ‘Magnificent Seven’

US Tech performance: The Magnificent Seven

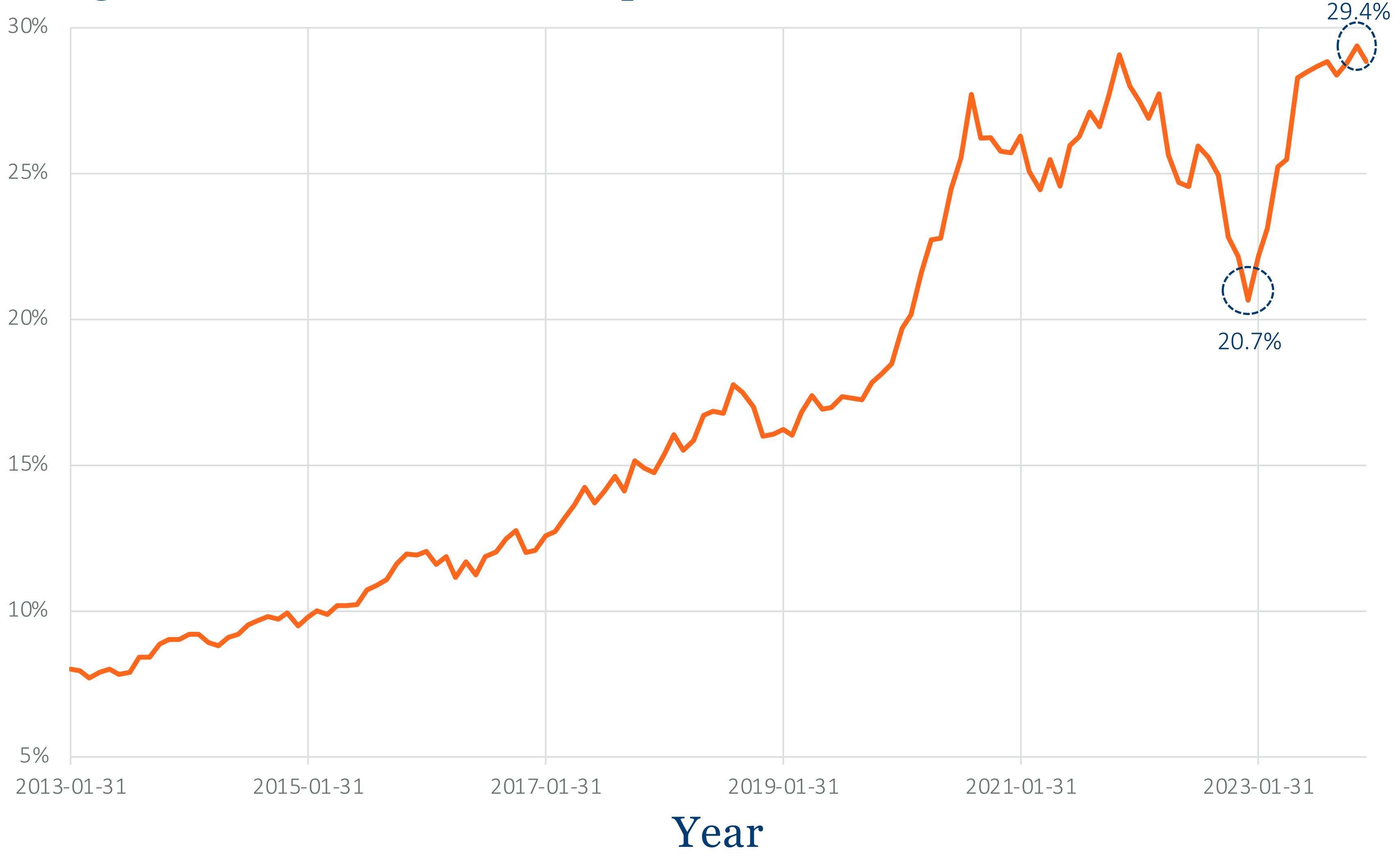


Source: Bloomberg (Daily) | 15 January 2024

The 'Magnificent Seven'

30% of S&P 500
A warning sign?

Magnificent Seven' market cap, as a % of S&P 500



Source: Bloomberg (Monthly) | 31 December 2023

Magnificent Seven: Apple, Microsoft, Google, Amazon, Nvidia, Meta, Tesla

A growing list of things to monitor

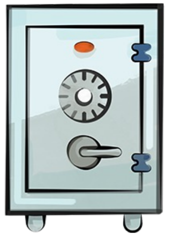
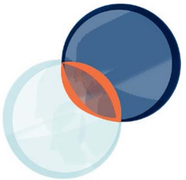
Market & other crashes…

"AI is profoundly changing the way we interface with reality itself. It may be causing crashes – plane crashes, train crashes, perceptual crashes, and eventually, market crashes…"

AI : "What has not been said" *(10/23)*

Pippa Malmgren
Author, Strategist,
Tech entrepreneur

Some things worth watching

Cyber-security	**CBDCs**	AI asset management	And others (to follow…)
			

Gary Gensler, Head of SEC *(10/23): "It's nearly unavoidable that AI will cause a financial crash within a decade… New regulation to follow…"*

Winners & Losers

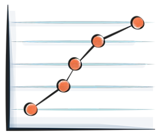
Winners & losers (?)

A high degree of uncertainty

Data is central: The big may get even bigger and remain the winners

Many are US companies

And have strong balance sheet to boot



But (arguably) not cheap

Other Tech (AI) companies may find themselves out-AI'ed…

A strong preference for bottom-up…!

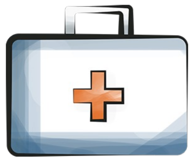
Possible future winners:

***Non-tech** companies who use AI to best advantage…?*

Winners & losers (?)

Summary Scorecard

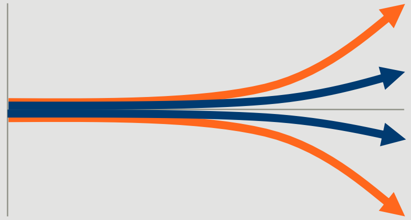


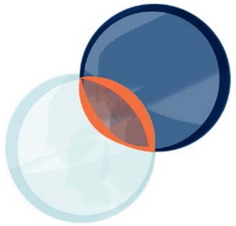



	Country (Military/ Economy)	*Jobs*	*Asset class*	*Sectors/ Stock*
Winners	• USA • Singapore • UK • China (?)	• Construction • Protective services • Healthcare • Food prep	• Commodities • Real Estate • Govn bonds • Select equities	• Best left to (skilled) asset managers
Losers	• Brazil • Russia • India(?) • Emerging Markets	• White Collar jobs • Legal • Business Ops • Educational • Computer & Maths	• Select equities (& corporate bonds)	• Ditto…

Conclusion & Recommendations

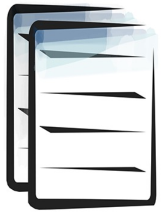
Conclusion





Vast area ***and e***volving extremely rapidly (exponentially)

Impossible to stay abreast of all, and ***yet…***

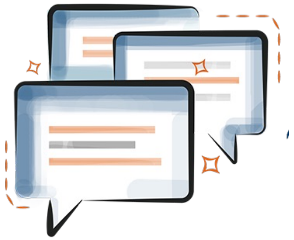


Many large ethical **and** moral challenges

Governments behind the curve;
Need to regulate, ***but…***

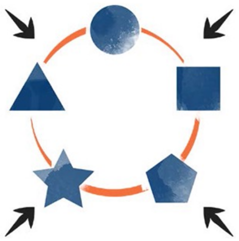
BIG risks ***and***
BIG opportunities

Wide range of possible outcomes;
Some may even be existential…!



"Smart" everything may not be so smart after all…!

Recommendations



Review your investment strategy;
Consider implications of Megatrends

Spend more time selecting appropriate advisors & asset managers

Consider Risks **and** Opportunities;
Diversification will be critical

Offshore allocation very important:
Far wider, **listed** opportunity set

May the force be with you!

RisCura's approach

Endeavour to adopt the ***best of the technology*** *available and use it to the best of its potential,*

WHILST

preserving and utilising the ***best of our humanity,*** *in pursuit of fulfilling our potential.*

#InvestWithCare

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