

AI DISRUPTION: CITRINI'S DOOMSDAY SCENARIO AND THE REST OF THE STORY!

Possible? Plausible? Probable?

AI — TESTING TIME?

- For much of the two years, **the AI story has been told by its advocates and salespeople**, and the companies in the AI ecosystem have benefited.
 - Not surprisingly, given that its narrators benefit from its growth, **that story has emphasized the positive**, with dazzling AI use cases and extrapolation of productively gains.
 - In the last few months, **we have seen cracks emerge in the story**, with investors wondering when, and in what form, the monstrously large investments in AI architecture will pay off, and how if they pay off, the businesses that they disrupt will fare.
- That disquiet has played out as **negative market reactions to new AI investments at Meta and Amazon**, a markdown in software company market capitalizations and last week, in a sell off on Monday (February 23rd) in response, at least partially, **to an AI scenario assessment from Citrini Research**, a publisher of macro and stock research.

THE CITRINI AI DOOMSDAY SCENARIO

- The Citrini AI assessment came out on February 22, 2026, and it starts with a preface stating that it is presenting a scenario, not a prediction.
 - The report lays out a story for AI that **unfolds with a dark end game for the economy by June 30, 2028**, where unemployment has risen above 10% and the market has sold off, down almost 40% from its highs.
 - There have been other AI doomsayers, but many of those doomsday scenarios are built around the storyline **that AI does not live up to its promise**, and the pain those scenarios comes from having invested trillions of dollars in building its architecture.
 - In contrast, the Citrini AI story is built on **the expectation that not only does AI work well at doing tasks currently performed by white collar professionals, across a range of firms, but its adoption happens very quickly.**
- The pain in the Citrini story comes from that **disruption creating substantial job losses**, and especially so among higher-earning workers, and their loss of income driving them to cut back on consumption. The ripple effects play out across businesses, with default risks and spreads rising, private credit collapsing and the market and economy pricing in the pain.

A FLAWED SCENARIO, BUT ONE THAT DESERVES CREDIT...

- I do think that there are **major flaws in the steps leading to the economic implosion** in the Citrini assessment, but if we look at the flaws, credit should be given where it is due.
- I have always been troubled by **how much we have worshiped at the altar of disruption in this century**, putting the founders of disruptors on pedestals and preaching its virtue.
- In keeping with Joseph Schumpeter's description of capitalism as built around creative destruction, I **do believe that a vibrant and dynamic economy needs a shake-up** and challenging of the status quo, but disruption comes with costs, not just to the businesses that are disrupted, but also to the people who work in them.
- The reason that many AI advocates took issue with the report was precisely because it **bought into their sales pitch of how AI bots can not only do what lawyers, bankers, software engineers and consultants do, but do them better, and then asked the question of "what then?".**

HIT A NERVE?

- While I was not surprised to see Goldman Sachs, Moody's and JP Morgan jump in with their AI scenarios, with more benign outcomes, where the job and income effects from AI are modest and temporary, I was surprised to see **Citadel wade into the argument**, with a direct rebuttal to Citrini,
- In their scenario, which sees a much more positive end game from AI disruption, is built around three pillars.
 - The first is **current data on jobs and layoffs** in the businesses most directly targeted by AI, such as software, where they note that while jobs have been shed, the job losses have been modest, and AI adoption trends, where you don't see breakouts consistent with what you would need for the speedy disruption predicted by Citrini.
 - The **second is history**, where they look at disruptions in the past (PCs, the internet) and note that none of them have created the job losses or economic collapses predicted in the doomsday scenario.
 - The third is **grounded in macroeconomics**, where they point to the inconsistency of a large positive productive shock, from AI's success, playing out as large negative shock to the economy in which it happens.

COMPLETING THE AI STORY

- The problem with all these AI scenarios is that they are rooted in the **weakest of responses to uncertainty, which is to pick a scenario and describe it in detail**, without establishing, at least in qualitative terms, how likely the scenario is, in the first place.
- It is entirely possible **that what Citrini was presenting was a "worst-case" scenario** (I read through the report multiple times and could not get a sense of if this was so, and the subsequent responses from Citrini have only muddied the waters), a "low likelihood" scenario or the "likely scenario" of how AI will unfold.
 - **If it is a likely scenario**, and you buy into the pitch, the investment and personal consequences will be dramatic, since it is entirely possible that, if you are a white-collar worker, you will have lost your job by June 2028, and your savings, if invested in stocks, would have taken a beating.
 - If it is a **"low likelihood" scenario**, and you are exposed, because of your job, age and portfolio composition, you should consider buying protection, but **if it is a worst-case scenario**, it is almost entirely useless, except to get people's attention.

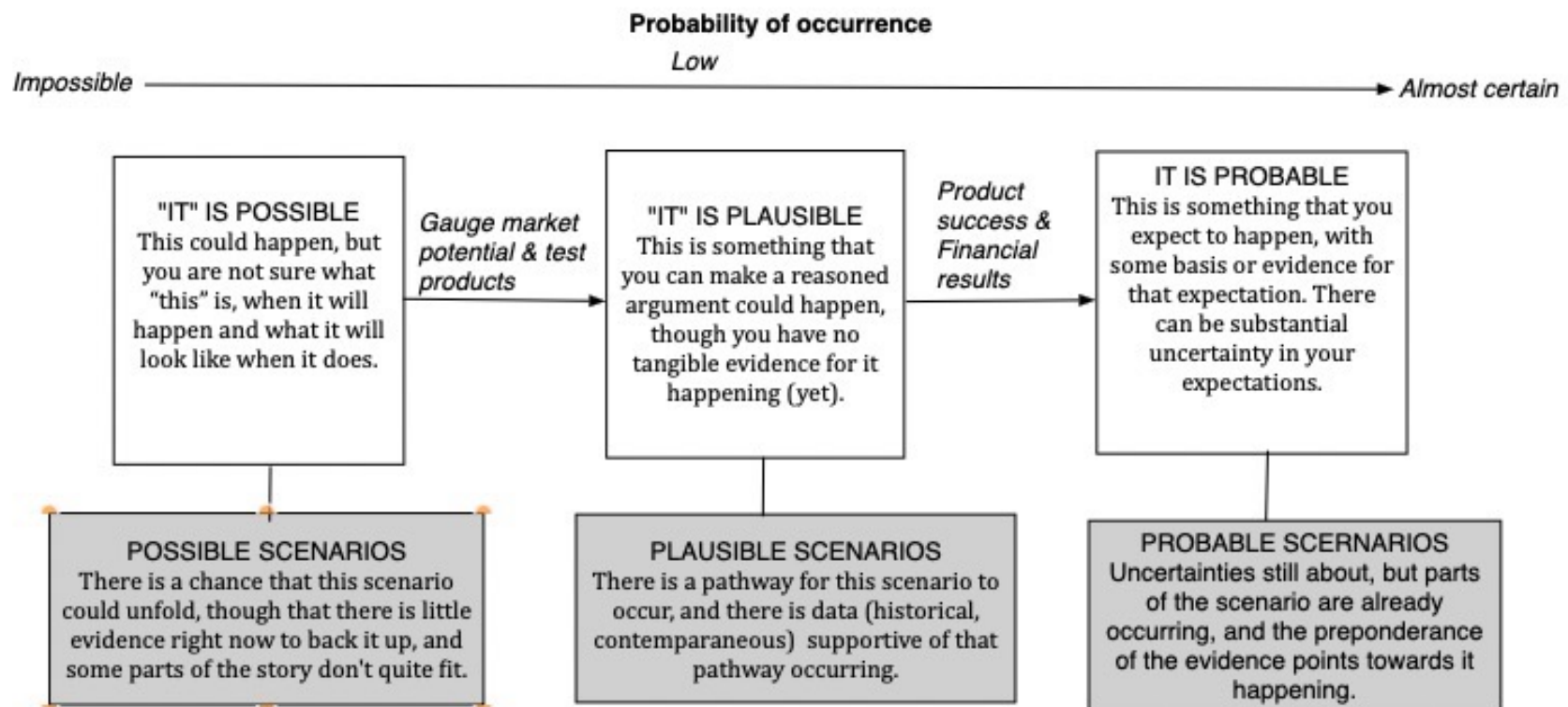
POINT ESTIMATES AND PROBABILITIES

- For much of its history, **financial analysis has been built around point estimates**, where you identify key drivers, estimate the effects on your bottom line (earnings, cash flows) and make your best judgments.
- I have always wondered why finance and economics have **been so slow in adopting and using probabilistic approaches**, where point estimates are replaced by distributions, and a single judgment by a distribution.
 - One reason, at least early on, is that economists and financial analysts often **did not have rich enough data or powerful enough tools** to adopt decision trees, simulations or scenario analysis in making their macroeconomic and investment judgments, but that no longer is true.
 - Another reason may be that **many in this group are uncomfortable with statistical distributions** or probability estimates and stay away from using them.
 - The third reason, at least for a subset of analysts, is a concern that being open about estimates and the errors in those estimates, which is visible to all in probabilistic approaches, will be **viewed as a sign of weakness or lack of conviction** on the part of those that use their estimates.

SCENARIO ANALYSIS!

- **In its most sloppy form**, and one that has been around for decades, scenario analysis has taken the form of **best case - base case - worst case scenarios**, an almost useless exercise, since there are almost no risky investments that are going to pass muster under the worst case scenario, no matter how good they are, or are going to fail under the best case scenario, no matter how bad they are.
- A scenario analysis, done right, should look at **scenarios that cover all possible outcomes**, and for completion, need **probabilities attached to these scenarios**, which can then be used by a decision maker to estimate expected values.
- That will be **almost impossible to do** if you are trying to work out future pathways to AI, since it is so early in the process and so little is known about outcomes.

A LESS INTENSE VERSION OF SCENARIO ANALYSIS



AI DISRUPTION – THE TWO BIG QUESTIONS!

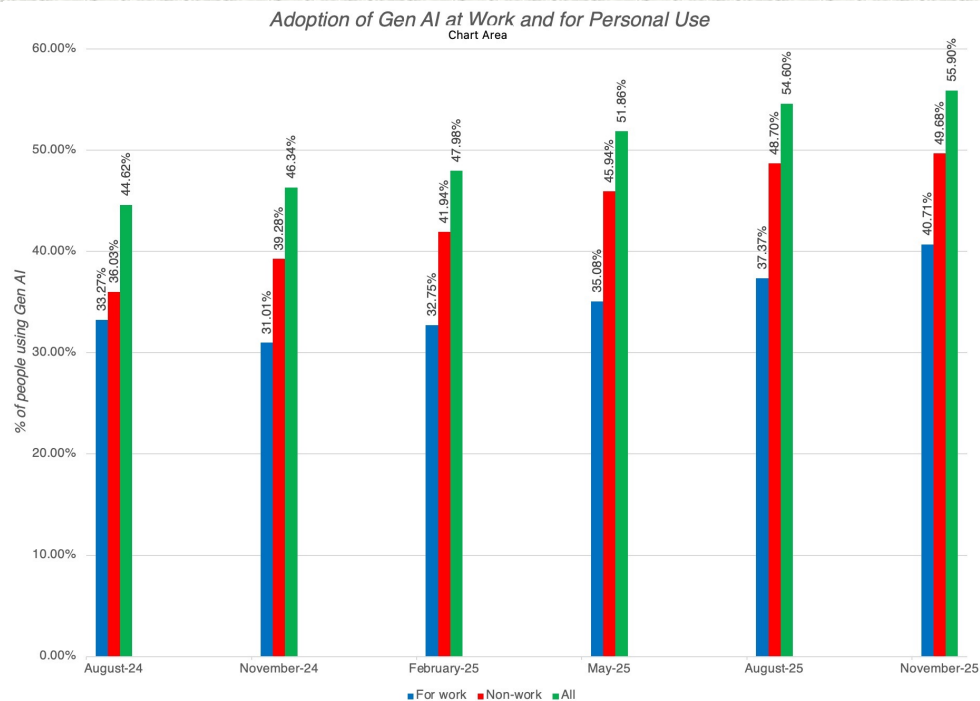
- *Will AI displace workers in businesses, or will it provide them with more powerful tools?*

If you listen to some of AI's strongest advocates, such as Anthropic's Dario Amodei, **AI will have the capacity to displace and replace workers across multiple businesses**, as it develops strengths that go beyond the purely mechanical. (Citrini assumes broad disruption whereas Citadel sees more narrow disruption)

- *How quickly will the AI disruption happen?*

Here again, there is disagreement, with **some AI optimists believing that its disruption of regular businesses is imminent**, whether displacing workers or in giving them tools. Others believe that AI adoption will take time, partly because the tools need work and partly because businesses and workers are slow to adapt to change. (Citrini sees speedy disruption whereas Citadel sees slower disruption)

AI DISRUPTION — WHERE WE STAND!



	11/24	02/25	05/25	08/25	11/25
Ag./Forestry/Fishing	1.19%	0.87%	1.99%	1.09%	2.02%
Mining/Oil/Gas	2.33%	0.71%	1.18%	4.51%	1.27%
Construction	1.46%	1.95%	2.79%	1.66%	2.71%
Manufacturing	1.59%	1.66%	2.12%	1.53%	2.22%
Wholesale Trade	1.06%	1.62%	1.91%	2.16%	2.54%
Retail Trade	3.91%	1.29%	1.50%	2.41%	2.74%
Transport/Warehousing	1.49%	1.30%	2.01%	1.12%	1.54%
Utilities	0.99%	0.64%	1.20%	1.54%	1.24%
Information	2.73%	4.01%	2.87%	3.84%	3.81%
Finance & Insurance	2.32%	1.55%	2.28%	2.97%	3.13%
Real Estate & Leasing	1.27%	1.24%	2.44%	2.61%	2.16%
Professional & Tech. Serv.	1.99%	2.55%	3.36%	2.83%	3.22%
Management of Cos.	4.27%	3.17%	2.00%	2.99%	4.04%
Admin & Waste Serv.	0.74%	1.00%	1.28%	1.13%	0.74%
Education Services	1.33%	1.85%	1.58%	2.48%	2.38%
Health Care & Social Assist.	1.00%	1.42%	1.35%	0.74%	1.38%
Arts/Entertainment/Rec.	1.20%	1.44%	2.09%	2.19%	1.77%
Accommodation & Food Serv.	0.62%	1.06%	0.81%	0.72%	0.77%
Other Services	0.79%	1.83%	1.01%	0.72%	1.43%
Public Administration	0.91%	0.49%	0.32%	0.81%	1.06%

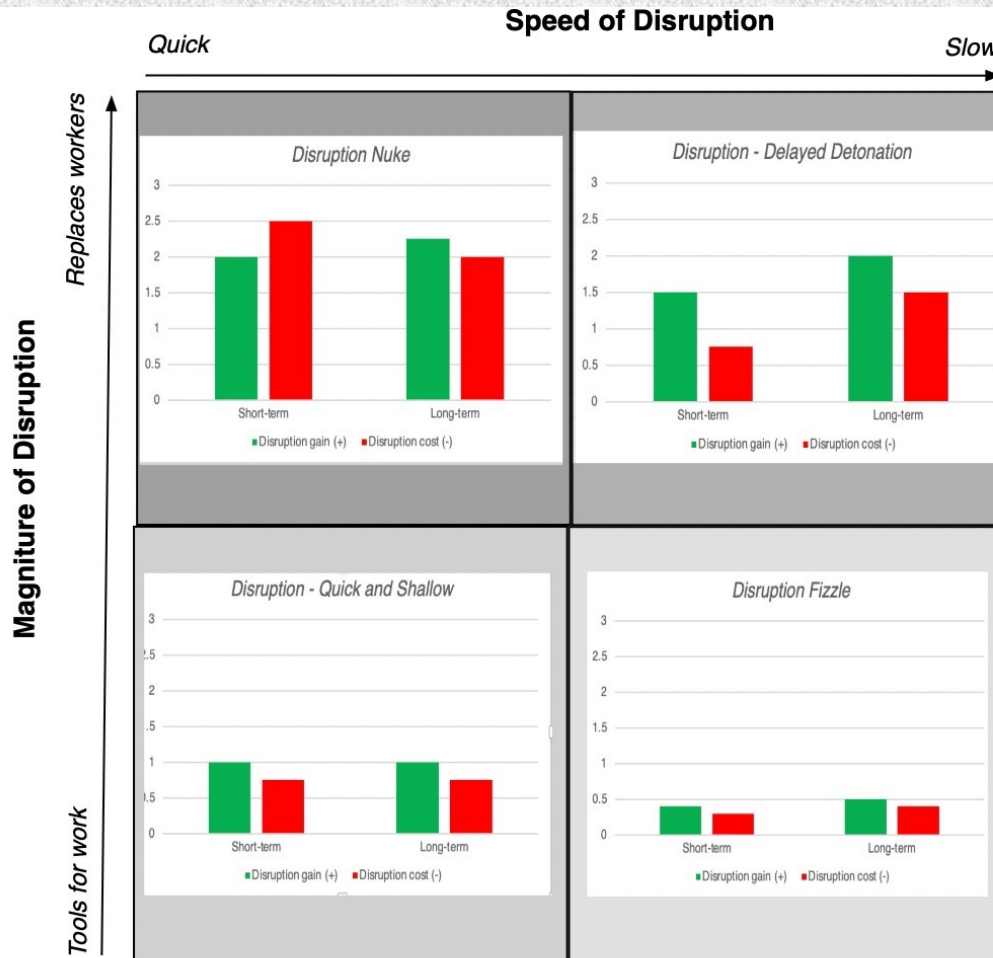
AI DISRUPTION – THE BENEFITS

- With AI, the positive effects will take the form of **higher productivity**, as it presumably either allows people to do their jobs more efficiently (with the tools) or actually replaces people and does their jobs instead.
- Relating back to the different pathways that AI disruption can take, both in form and in form and speed, I would hypothesize that these disruption benefits will be a function of how the disruption plays out.
 - *Proposition 1: The disruption benefits from AI disruption will be **greater from people displacement than from tools**.*
 - *Proposition 2: The **productivity effects from AI disruption will decrease**, at least in economic value terms, **the longer it takes** for the AI disruption to unfold.*

AI DISRUPTION- THE COSTS

- The negative effects of AI, in purely economic terms, will come from the immediate **displacement of people**, if AI replaces labor, or from the **decrease in employees needed** to get tasks done, if AI makes existing employees more efficient. Here again, I would hypothesize that these disruption costs will be function of how the disruption plays out.
 - *Proposition 3: The disruption costs from AI disruption will be **greater from people displacement than from tools**, as those laid off lose income and spending power.*
 - *Proposition 4: The **productivity costs from AI disruption will decrease, at least in economic value terms, the longer it takes for the AI disruption to unfold**, since time will allow new entrants into labor markets to adjust to a disrupted business world.*

THE AI DISRUPTION – COST BENEFIT ANALYSIS



AI SCENARIOS – THE 3P TEST!

<i>Disruption Scenario effect</i>		<i>Disruption Timing</i>	<i>Net Benefits - short term</i>	<i>3P Test</i>
<i>Worker displacement</i>	<i>Tool Power</i>			
In most businesses	Mostly Game changing	Speedy	Negative	Possible, but not plausible
In most businesses	Some Game changing	Slow	Positive (large)	Plausible
In some businesses	Some Game changing	Slow	Positive (medium)	Probable
In some businesses	Incremental	Speedy	Positive (small)	Plausible
In very few or no businesses	Incremental	Slow	Positive (minimal)	Possible, but not plausible

My justification for slower:

1. AI products still have glitches to work through and are still not ready for autonomy.
2. History, where no disruption has ever unfolded without delays and drawbacks.
3. Human nature, where reluctance to change is deep, especially in older workers and more established businesses.

My justification for substantial, but not overwhelming

1. AI is not ChatGPT on steroids
2. Businesses have made more of their work rule-driven and devoid of human ingenuity.

AI EMPLOYEE DISPLACEMENT TARGETS?

More likely

- Young companies, with younger employees (inertia weakest)
- High gross margins and profitability
- Mechanical and rule-based products and services.
- No or weak system protection from regulators, legal system etc.

Less Likely

- Older companies, with aging workforces (inertia strongest)
- Lower gross margins and buffer
- People-based products and services.
- Strong system dependence and protection from rule-writers and regulators.

CUI BONO?

- At first sight, almost **most of the AI scenarios yield net benefits**, but it is possible that the net benefits accrue to a few businesses (and individuals), leaving the rest (businesses and individuals) with net costs.
- 1. The **interests of the AI companies and the rest the economy/market** will diverge on AI disruption, with the former benefiting if the disruption is across many businesses and happens quickly, and the latter benefiting from a slower disruption restricted to a few businesses.
- 2. The last few major disruptions have all **tilted the playing field in many businesses towards larger companies**, making businesses more winner-take-all. It is likely that the AI disruption will play out in similar ways, with the winners winning big, and lots of companies losing out.
- 3. At the individual level, it is not just plausible, but also likely, **that a strong AI disruption will make wealth and income inequality worse**, with founders of AI businesses joining the ranks of the deca-billionaires and centi-billionaires.
- **A job is not just a source of income for many, but also a source of self esteem and worth.** When software engineers who pride themselves on their coding skills, bankers who have spent decades becoming excel ninjas, and consultants who have found inventive ways of packaging cookbook solutions as new and inventive, all find that AI can do what they can do almost effortlessly, the psychic damage is significant.

THE AI PERSONAL THREAT!

- Just about two years ago, **I wrote about an AI entity called the Damodaran Bot**, that was being developed by Vasant Dhar, my colleague at NYU. I have watched that bot develop, with quirks and occasional hiccups, to a point where it can replicate much of my content almost effortlessly. At the time, though, I did write about what I could do to keep the moat at bay, including the following:
 1. Generalist vs Specialists: I am a dabbler, an expert in nothing and interested in lots of different things, and I do think that gives me an advantage over a bot that is trained to focus on a topic and drill down.
 2. Left and Right Brain: If the legend of the right and left brains holds, where the left brain controls logic and numbers and the right brain drives your imagination, a bot will have a tougher time replicating what you do. That said, I have seen the Damodaran Bot get much better at story telling in the two years that I have watched it grow, and I need to up my game.
 3. Reasoning muscle: As we move into a time, where the answer to every question is online, on Google Search and ChatGPT, we are losing the need to exercise those reasoning muscles, and exposing ourselves to our bots.
 4. An idle mind: I don't have much real work to do, I also have plenty of vacant time, with nothing to do. I use that time to daydream and ponder about questions on , including why someone would pay billions of dollars for a sports franchise, how to deal with the risk of lava from a volcano hitting a spa and ruining its valuation and how Netflix has broken the entertainment business. None of these posts include Nobel prize-worthy insights, but my guess is that the Damodaran bot would have trouble with my wandering mind.

FIND YOUR MOAT AGAINST AI, EVEN IF YOU DON'T BELIEVE IT IS IMMINENT!

- You should be acting as if a bot with your name is looking over your shoulder and trying to learn what you do, and think about what you can do to keep that bot at bay.

The Truth

		God exists	No God
<i>What you believe will happen</i>	God exists	Heaven	Utility lost by not indulging in sinful activity, and sacrificing things you would have liked to have done (if they were not forbidden)
	No God	Hell	Benefits of a lifetime of debauchery and sin, with no divine consequences, but perhaps personal (health, relationships) costs.

What actually happens

		AI works	AI does not work
<i>What you believe</i>	AI works	You may be able to beat the threat or at least be better prepared.	Your work preparing may not be needed to beat AI, but you will be better at whatever you do.
	AI does not work	You may be replaced by your bot, and face financial and emotional bankruptcy	You continue with the status quo, and life goes on.