November 2023

"A DISCONNECT BETWEEN FINANCE AND THE REAL WORLD LIES AT THE HEART OF ALL GREAT BUBBLES."

Ed Chancellor, The Price of Time

"INTEREST RATES ARE TO THE VALUE OF ASSETS WHAT GRAVITY IS TO MATTER."

Warren Buffett

"WHEN I SEE A BUBBLE FORMING, I RUSH TO BUY ADDING FUEL TO THE FIRE."

George Soros

AI: ABSOLUTE INSANITY

Time is money. It is our most precious and most scarce resource. Some would say that time is priceless. In many ways, it is. In others, its price is readily available alongside every other market quotation: the price of time is the rate of interest.

Interest lies at the foundation of capitalism. It is the traffic signal that steers the economy. Turn off that signal, and accidents begin to pile up. Provide "money for nothing," and the market's speed governor disappears; capital can't be properly allocated, and too little is saved. Without interest in regulating financial behavior, markets descend into chaos.

Without a market rate of interest, investments are impossible to value. Once the gravitational force of interest is removed, speculative assets are free to float to the moon. In his most recent book, *The Price of Time*, Ed Chancellor explains how the supply and demand for capital are equalized by interest rates and how easy money creates economic distortions. The artificial reduction of interest rates discourages normal saving and investment, reduces capital accumulation, and slows productivity. "It tends to encourage highly speculative ventures that cannot continue except under the artificial conditions that have given birth to them."

A disconnect between fact and fiction, between the real world and the financial world, lies at the heart of all great bubbles. The most recent episode was fueled by unprecedented, stimulus-fueled speculation as cash eagerly flowed into millions of new Robinhood accounts, with zero-commission trading, next-to-nothing margin loans, and options trading for all. Predictably, "this time it's different' did not turn out to be any more true than before. Anyone with an understanding of previous market bubbles should have been able to sidestep this mania. Those who pointed to its "unique nature" should have known better. Most did not. Instead, those who did not remember the past were condemned to repeat it.

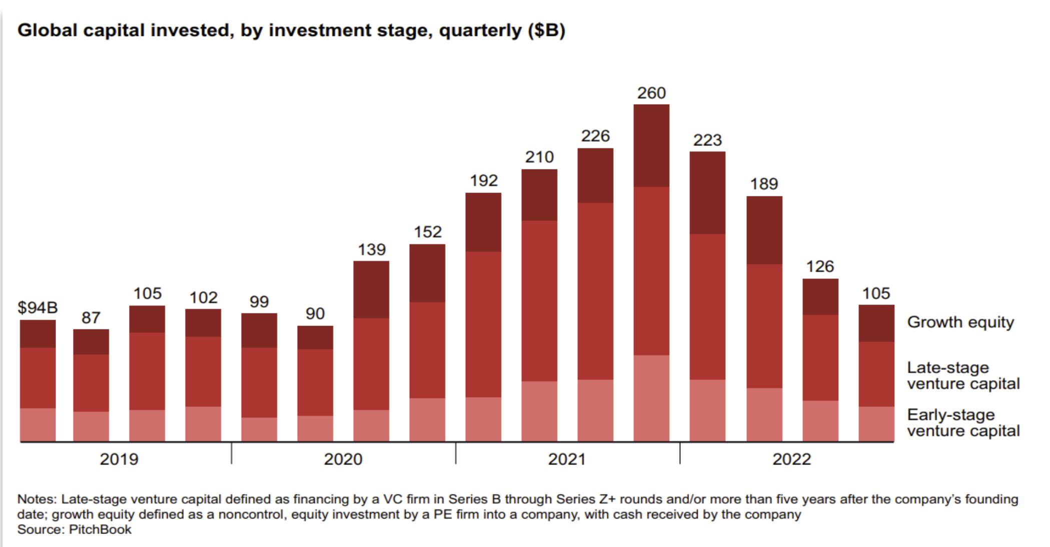
Students of history have seen this pattern repeated again and again. Technological change has been a constant for centuries but is largely incremental. However, once in a lifetime, a new technology promises a revolutionary shift in the economy and huge rewards for riding the wave of profound change. Such technological revolutions occurred with the development of railroads, electric light, the telephone, the automobile, the radio, the semiconductor, the personal computer, and the internet. Each of these periods was accompanied by a wholesale shift in stock market valuations, as investors readily paid ridiculous prices for unproven businesses, and the conventional relationship between risk and return was turned completely upside down. But as early enthusiasm proved exaggerated or incorrect, excitement was ultimately replaced with a more sober assessment when reality reasserted itself.

The history of technological change demonstrates that commercial success is more difficult to achieve than technological triumph. For the investor, identifying which new companies will become long-term winners is even more difficult, as they are only identified in hindsight, often after a period of distress has pruned the competition.

Technology may have changed the world. But it hasn't changed human nature. In *Engines That Move Markets*, Alasdair Nairn outlines the many conditions that have been consistent throughout history's financial manias driven by the emergence of new technology. Of all of the factors, the availability and cost of money – i.e., *The Price of Time* – has been, by far, the most important element. The rate at which (venture) capital is supplied has always depended upon confidence in the new technology, but the general economic and financial climate has always been the primary determinant.

When the economy is growing, interest rates are low, and financial markets are buoyant, stories about exciting new technologies are likely to fall on fertile ground. New companies take advantage of buoyant financial markets as capital can be easily raised. And as cheap capital quickly attracts others, it doesn't take long for a boom to develop, as investment in technology becomes driven more by the potential for stock market riches than the merits of the technology itself.

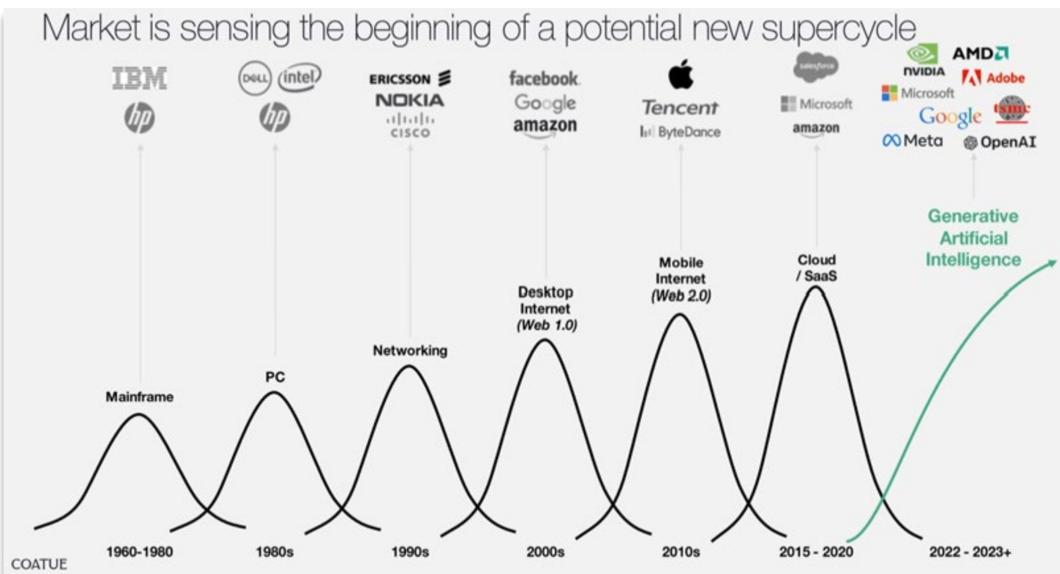
Compared to historical precedents, the last decade of near-zero interest rates put each of Nairn's conditions on steroids. The duration and magnitude of the most recent mania were unprecedented, as companies were able to raise capital without demonstrating viability or profitability. To put this into perspective, consider that, at their peak, the railroads raised roughly $250 billion in today's dollars, similar in magnitude to the capital expenditures of the telecom sector during the TMT bubble. In contrast, venture capital funding reached $260 billion in *the fourth quarter* of 2021.[1]



[1] Bain Global Private Equity Report 2023

Looking back, the market's reaction was just what you'd expect from studying history. As investors chased the potential winners, valuation metrics migrated further and further away from historical norms. Any company that could remotely pass for part of the "new economy" was bid up to sky-high valuations in the blink of an eye, regardless of merit. As valuations became impossible to sustain and continued to migrate further into the future, investors became gamblers. Traditional valuation metrics, temporarily ignored, came back with a vengeance as rising capital costs and investor unease created the conditions for the bubble to burst. As in previous historical periods, many investors lost huge sums of money by holding onto once high-flying stocks after the peak had passed. It took roughly ten years for the telecom, media, and technology sectors to recover from the dramatic declines that followed the bursting of the TMT bubble. We suspect today's cohort may be in for a similar fate, but surprisingly, the familiar pattern already appears to be unfolding again!!

Ironically, after such tremendous destruction of wealth, market participants have so quickly latched onto the new, new thing. It is idiotic that we are already hearing the word bubble on investors' lips as they eagerly speculate where the next technological revolution will occur. The extreme brevity of financial memory today would even surprise John Kenneth Galbraith, who penned *A Short History of Financial Euphoria*. "There can be few fields of human endeavor in which history counts for so little as in the world of finance. Past experience, to the extent that it is part of memory at all, is dismissed as the primitive refuge of those who do not have the insight to appreciate the incredible wonders of the present."



While former unicorns are still trading at massive discounts to peak valuations, with cash-strapped founders, employees, and investors under pressure to dump shares amidst a wave of job cuts, it is a different story for "Anything AI." Artificial Intelligence has quickly captivated investors' imaginations. The buzz is already pushing prices for start-ups to eye-popping premiums on private markets, with $35 billion in AI deals this year through May. [2]

Retail investors are quickly rejoining the party, hoovering up anything and everything, with even a hint of AI. Nobody wants to miss out on the renewed rally, with a broad consensus of fund managers showing investors are "exclusively long" tech stocks amid the buzz around artificial intelligence. DeepMind's co-founder, Mustafa Suleyman, whose one-year-old start-up, Inflection AI, has already raised over $1.5 billion, said it perfectly. *"This is capitalism at its best. You want capital to chase opportunity, and that drives creativity and invention. Of course, some people are going to lose their shirts."*

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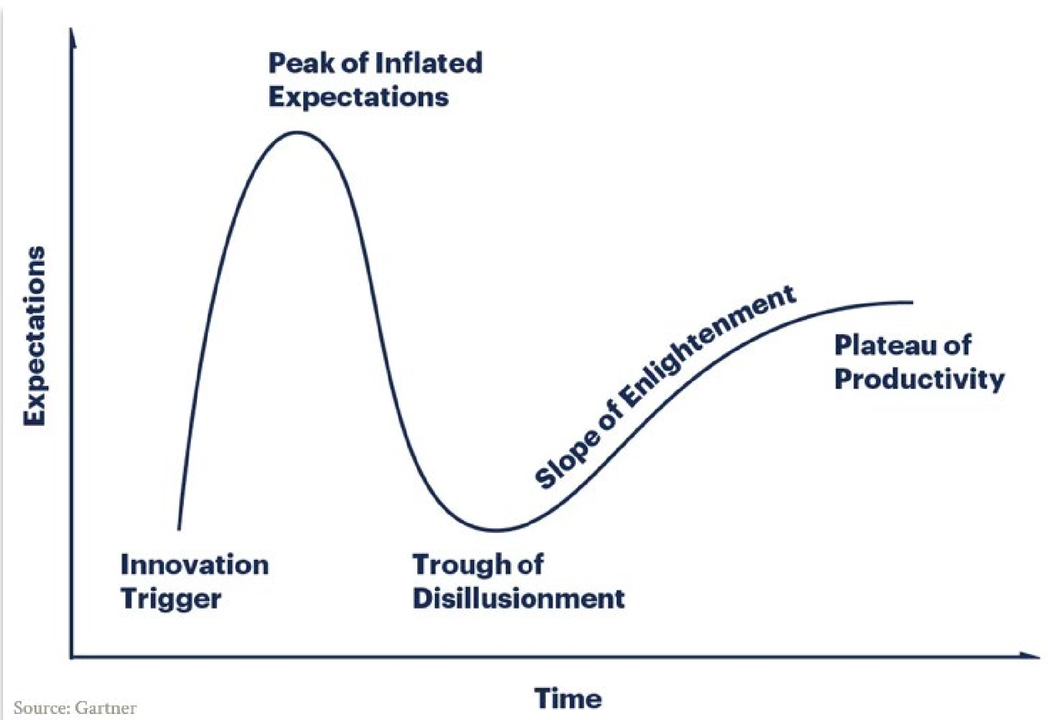
[2] AI Billionaires: Founders Get Rich as Startups Reach Unicorn Status

The market's obsession with artificial intelligence may well turn out to be justified. It doesn't take much imagination to see that the commercial potential for its application and the upside in terms of economic productivity could match the industrial revolution or the advent of the Internet.[3]

In the long term, it's likely that the impact of Generative AI may even be underestimated. The key phrase here being "long term."

Historically, it has taken one to three decades for the broad implementation of new technologies to impact productivity, with the primary benefits coming from entirely new and previously unimaginable approaches rather than doing the same things faster.

The adoption of AI will likely proceed faster for a number of reasons, but the peak impact on productivity remains far off, as the invention of the technology is still dependent upon complementary inventions to use it effectively. This is a slow process that will develop over time. In the meantime, it sure feels like we are approaching Gartner's "Peak of Inflated Expectations."



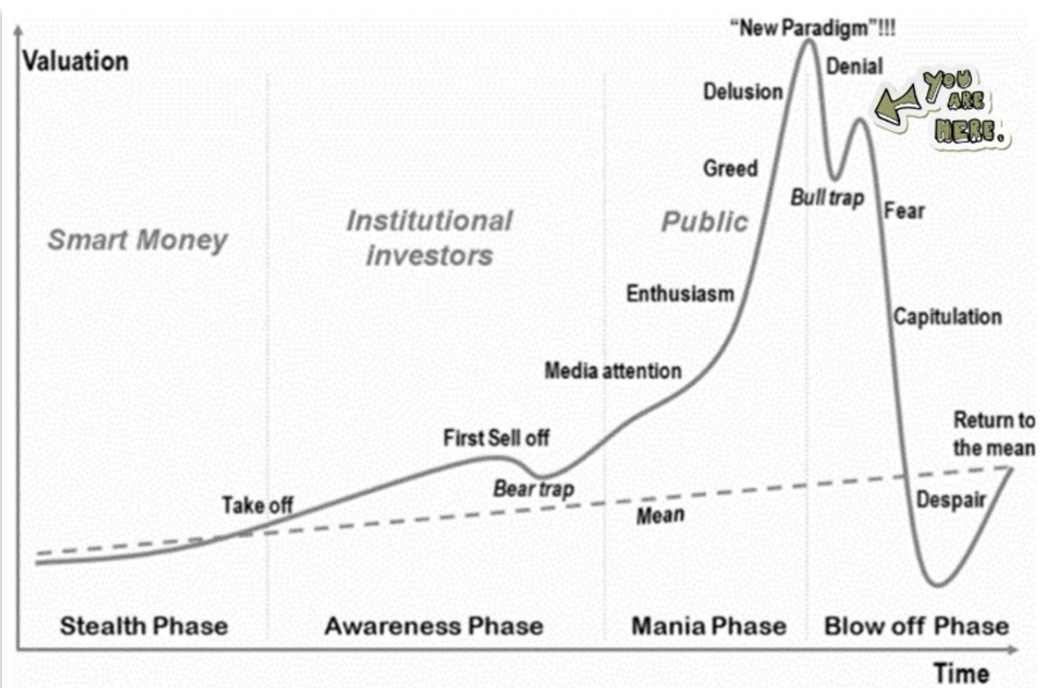
AI Mania may very well have legs, as more investors are captivated by shiny new toys and one hell of a compelling narrative. But those investors would be well served to recall that all manias are built on a foundation of truth. It's just that, eventually, that truth becomes so stretched it is entirely discounted by the market. At that point, for these story stocks to continue to outperform, the truth must be stretched even further than already glowing expectations.

[3] The Economic Potential of Generative AI

This same pattern has played out over and over again throughout history. In the late 90s, the last tech bubble inflated on the heels of an equally compelling narrative – the internet represented a new paradigm that would forever transform how we exchange information and ideas, how we communicate, and how we conduct transactions. This was indeed true, and possibly even underestimated its effect on productivity. But when actual growth lagged the narrative, the tech-heavy Nasdaq plummeted ~ 80% over the following years.

Today's AI Mania may turn out to be truly different. It may also mark the beginning of a new bull market, as some have suggested. It's certainly a possibility. But history suggests it is not a terribly high probability. The late stages of a bull market are almost always pushed higher by fewer and fewer stocks as the market capitalization of those companies grows larger and larger. We have seen this movie before, and we know how it ends. Rapid growth rates and elevated margins tend to decline as companies become dominant and competition increases. As a result, the same mega-cap growth stocks that powered the market higher have historically dragged it lower following the peak. Two years after March 200, for example, the cap-weighted S&P 500 fell more than 20% while the average stock in the index actually rose by 25% over that period. With the "Magnificent Seven" – a basket of some of the largest stocks seen as AI beneficiaries – up more than 100% this year, investors better hope this time is, indeed, different.

If this does, in fact, turn out to be the beginning of a new bull market, something we will only know with certainty in hindsight, it would be the most expensive start to a bull market in history. Given the historical precedent, that doesn't seem like a prudent bet. A more sober and perhaps more realistic read of the investment landscape, supported by centuries of financial folly, is that investors may look back at this classic roadmap of financial manias and realize that they were "here" all along.



Source: Dr. Jean-Paul Rodrigue, Dept of Economics & Geography, Hofstra University

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