

Technological Evolution and Financial Cycles: How AI Fits In

Author



Robert M. Almeida
Portfolio Manager and
Global Investment Strategist

- While transformative for society, many new technologies shift economic value from producers to consumers, resulting in lower-than-average profit margins.
- The adoption of transformative technologies tends to follow a predictable cycle where competition erodes profit margins.
- Avoiding high-commoditized businesses and instead allocating toward enterprises with hard-to-replicate advantages may be key to future outperformance.

While every financial cycle is distinct, historical patterns consistently reveal a common dynamic: the economic value of groundbreaking general-purpose technologies (GPTs), ones that can affect the whole economy, tend to shift from producers to consumers as adoption rates peak. Examining this trend offers critical insights into the evolution of financial cycles and excesses, providing a framework for understanding today's AI investment boom.

The Paradox of GPTs

After a recent business trip in the Middle East, my 14-hour flight home felt long — but a century ago, it would have taken 14 weeks. The air travel industry has shrunk distances, accelerated the delivery speed and volume of goods and expanded human connectivity, effectively integrating the global economy. Through that lens, few would argue that flying — as a GPT — hasn't been wildly beneficial to society; yet the airline industry's profit margins across cycles are lower than average.

This pattern repeats across other historical GPTs. Like airlines, the automobile also brings people and goods together faster, and unsurprisingly, the industry's profit margins are similarly lower than the market average. This pattern was repeated later with radio and television and again in the late 1980s, as computers were rapidly placed on office desktops, delivering massive productivity gains. Today, however, PC makers (at least those not focused on handset devices) often deliver lower-than-market returns on capital.

This leads to a predictable cycle, which can be broken down into these phases:

1. New technology with far-reaching demand is supply-constrained and drives high profit expectations.
2. Prospects for outsized returns draw entrepreneurs and capital which increases product supply and elevates stock prices.
3. While adoption rates are rising, excess competition and supply exceeds demand and dilutes industry margins.
4. Elevated asset prices collapse, and the industry consolidates.
5. Depending on how leveraged the economy and financial markets were to the investment boom, it dictates the severity of the ensuing recession and market drawdown.



The paradox doesn't stem from a failure of the technology itself; in fact, the products continue to advance. Computers are more powerful and faster, televisions are lighter with better pictures, automobiles are more fuel efficient and last longer, flying times are shorter, etc. This is the core of the GPT paradox: the adoption of technology is inversely proportional to its commercial value for its producers and shareholders.

This dynamic often precipitates economic and financial market excesses and corrections, as entrepreneurs and investors fail to properly account for the powerful forces of capitalism and free markets. Investors who allow the awe of scientific advancement to obscure this transfer of commercial value from producers to society are often taught a painful lesson in economics and financial markets.

How can this help us think about AI and this cycle?

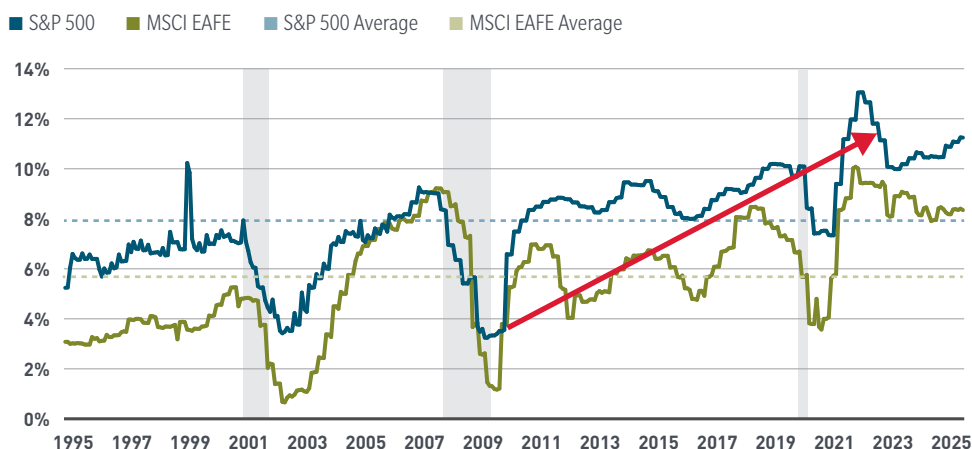
An algorithm is a feedback loop that predicts the future based on the past, making AI, at its core, a powerful prediction machine with computational power far beyond human capacity. It is an amazing feat of human engineering that advances daily.

However, like other historical GPTs, this reality possesses dualities. If the profit margin prospects are as high as market hype implies, how can we not expect the past to repeat itself through massive AI supply growth, as we saw with the release of DeepSeek earlier this year?

At the same time, much of the data available for AI models to learn from has already been consumed. This means highly capital-intensive AI models may face more than new competitors but also find it increasingly difficult and expensive to outcompete existing models when they are all scraping from the same database: the web. The less differentiated a product is, the less its pricing power and commercial value.

The accompanying chart displaying S&P 500 and MSCI EAFE profit margins shows the excesses that began in the 2010s after a long period of artificially suppressed interest rates, cost suppression and divestment via globalization. If AI, like other GPTs, follows a path of increased competition and commoditization, it will likely drive a slowdown in AI-related capital spending and flow-through to the broader economy. This could expose vulnerabilities in profit margins currently being obfuscated by the halo around AI.

Exhibit 1: Globalization and Cost Suppression: Effects on Profit Margins Since the 2010s



Source: Bloomberg. Monthly data from 31 January 1995 to 30 September 2025. Shaded areas = US recessions. It is not possible to invest directly in an index. Past performance is no guarantee of future results.



Conclusion

Much like other technologies, I don't believe you need to be a coder or programmer to assess the commercial aspects of artificial intelligence. Instead, the skilled investor needs to assess the future demand for AI against supply created by the capital cycle, as that is what will ultimately determine profit margins and stock performance.

For long term asset allocators, we feel the investment opportunity lies in avoiding businesses exposed to high commoditization risk, whether directly or indirectly related to AI. Capital should instead be allocated toward enterprises with hard-to-replicate advantages, which includes AI enablers such as certain hyperscalers. We see opportunity in vertical software companies with non-replicable domain expertise, while being wary of certain horizontal software businesses (those that create applications for a broad range of industries, such as accounting or customer relationship management vendors) which may face market share challenges as enterprises adopt AI.

But commoditization and profit margin deflation extend beyond technology. AI brings instant agency to consumers of all sorts, eliminating the profit advantages of mediocre products whose only economic moat was brands built by large advertising budgets. Companies with middling products and services will likely find past returns difficult to achieve as competition grows, while being forced to starve advertising budgets to feed long-overdue innovation. Elevated margins, as shown in Exhibit 1, will be difficult for many to sustain.

Overall, we believe selectivity will be key to driving better-than-market returns in what promises to be an evolving and volatile future, delivering a new paradigm of differentiated performance between active and passive managers. ▲

The views expressed are those of the author(s) and are subject to change at any time. These views are for informational purposes only and should not be relied upon as a recommendation to purchase any security or as a solicitation or investment advice. No forecasts can be guaranteed. Past performance is no guarantee of future results.

GLOBAL DISCLOSURE

Unless otherwise indicated, logos and product and service names are trademarks of MFS® and its affiliates and may be registered in certain countries.

Distributed by: **U.S.** - MFS Investment Management; **Latin America** - MFS International Ltd.

Please note that in Europe and Asia Pacific, this document is intended for distribution to investment professionals and institutional use only. In Canada, this document is intended for distribution to institutional clients only. In Qatar this document is strictly for sophisticated investors and high net worth individuals only.

Note to readers in Canada: Issued in Canada by MFS Investment Management Canada Limited. **Note to UK and Switzerland readers:** Issued in the UK and Switzerland by MFS International (U.K.) Limited ("MIL UK"), a private limited company registered in England and Wales with the company number 03062718, and authorised and regulated in the conduct of investment business by the UK Financial Conduct Authority. MIL UK, an indirect subsidiary of MFS®, has its registered office at One Carter Lane, London, EC4V 5ER. **Note to Europe (ex UK and Switzerland) readers:** Issued in Europe by MFS Investment Management (Lux) S.à r.l. (MFS Lux) – authorized under Luxembourg law as a management company for Funds domiciled in Luxembourg and which both provide products and investment services to institutional investors and is registered office is at S.à r.l. 4 Rue Albert Borschette, Luxembourg L-1246. Tel: 352 2826 12800. This material shall not be circulated or distributed to any person other than to professional investors (as permitted by local regulations) and should not be relied upon or distributed to persons where such reliance or distribution would be contrary to local regulation; **Singapore** - MFS International Singapore Pte. Ltd. (CRN 201228809M); **Australia/New Zealand** - MFS International Australia Pty Ltd ("MFS Australia") (ABN 68 607 579 537) holds an Australian financial services licence number 485343. MFS Australia is regulated by the Australian Securities and Investments Commission.; **Hong Kong** - MFS International (Hong Kong) Limited ("MIL HK"), a private limited company licensed and regulated by the Hong Kong Securities and Futures Commission (the "SFC"). MIL HK is approved to engage in dealing in securities and asset management regulated activities and may provide certain investment services to "professional investors" as defined in the Securities and Futures Ordinance ("SFO"); **For Professional Investors in China** – MFS Financial Management Consulting (Shanghai) Co., Ltd. 2801-12, 28th Floor, 100 Century Avenue, Shanghai World Financial Center, Shanghai Pilot Free Trade Zone, 200120, China, a Chinese limited liability company registered to provide financial management consulting services.; **Japan** - MFS Investment Management K.K., is registered as a Financial Instruments Business Operator, Kanto Local Finance Bureau (FIBO) No.312, a member of the Investment Trust Association, Japan and the Japan Investment Advisers Association. As fees to be borne by investors vary depending upon circumstances such as products, services, investment period and market conditions, the total amount nor the calculation methods cannot be disclosed in advance. All investments involve risks, including market fluctuation and investors may lose the principal amount invested. Investors should obtain and read the prospectus and/or document set forth in Article 37-3 of Financial Instruments and Exchange Act carefully before making the investments; **For readers in Saudi Arabia, Kuwait, Oman, and UAE (excluding the DIFC and ADGM). In Qatar strictly for sophisticated investors and high net worth individuals only. In Bahrain, for sophisticated institutions only: The information contained in this document is intended strictly for professional investors.** The information contained in this document, does not constitute and should not be construed as an offer of, invitation or proposal to make an offer for, recommendation to apply for or an opinion or guidance on a financial product, service and/or strategy. Whilst great care has been taken to ensure that the information contained in this document is accurate, no responsibility can be accepted for any errors, mistakes or omissions or for any action taken in reliance thereon. You may only reproduce, circulate and use this document (or any part of it) with the consent of MFS International U.K. Ltd ("MIL UK"). The information contained in this document is for information purposes only. It is not intended for and should not be distributed to, or relied upon by, members of the public. The information contained in this document, may contain statements that are not purely historical in nature but are "forward-looking statements". These include, amongst other things, projections, forecasts or estimates of income. These forward-looking statements are based upon certain assumptions, some of which are described in other relevant documents or materials. If you do not understand the contents of this document, you should consult an authorised financial adviser. Please note that any materials sent by the issuer (MIL UK) have been sent electronically from offshore. **South Africa** – This document, and the information contained is not intended and does not constitute, a public offer of securities in South Africa and accordingly should not be construed as such. This document is not for general circulation to the public in South Africa. This document has not been approved by the Financial Sector Conduct Authority and neither MFS International (U.K.) Limited nor its funds are registered for public sale in South Africa.