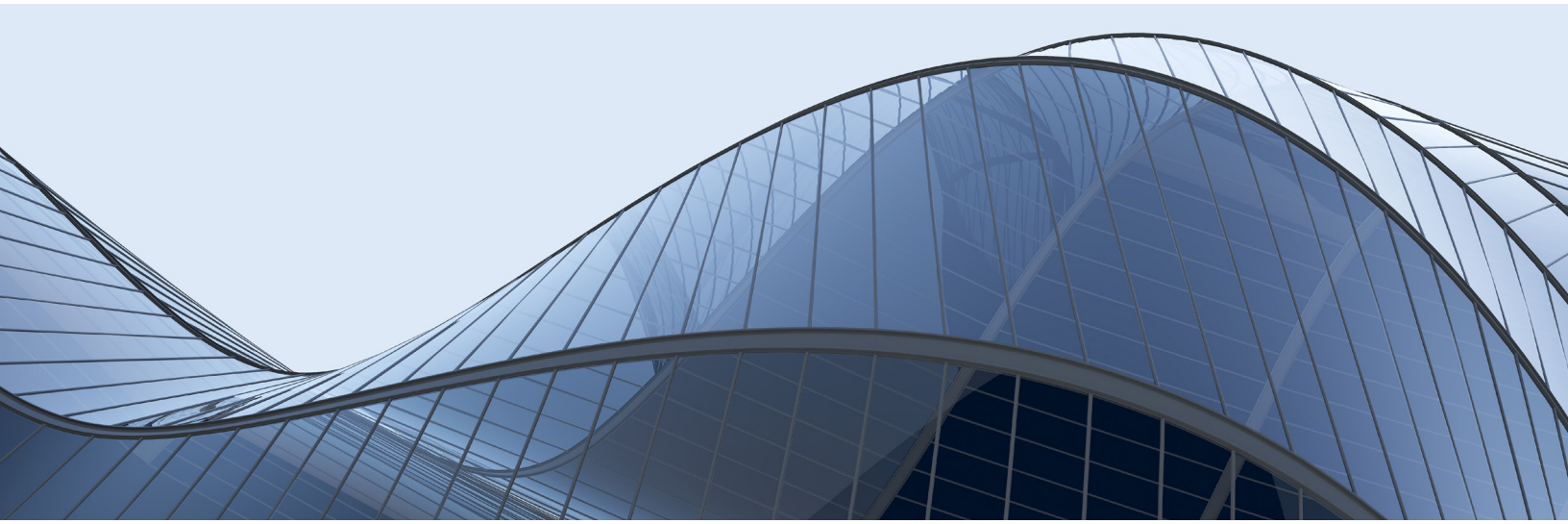
CIBC ASSET MANAGEMENT

Early innings for this AI-driven technology cycle

Assessing technology valuations and future growth

Ryan Diamant, CFA, Director, Client Portfolio Manager – Equities

October 2025



Summary

- Artificial intelligence related stocks have had an exceptional 2025, continuing a historic run that started in 2023.
- Nvidia is more attractively valued today based on 2-year forward earnings estimates than in 2023 and 2024. The growth has been so significant that it's more than offset price appreciation.
- The Magnificent 7 appear far less expensive compared to much of 2023 and 2024.
- During the last technology inflection point, Apple commanded a premium valuation in comparison to the broader S&P 500 Index for over four years, returning 170% outperforming the market return of -12%.
- Microsoft commanded a premium multiple for over a decade prior the tech bubble. If one invested from January 1, 1995 to December 31, 2021 which includes the collapse of the tech bubble in 2000, the cumulative return would be around 645%.
- Microsoft's forward 2-Year P/E Ratio looked expensive between 1998 and 2000, far exceeding its average valuations during the PC era and exceeding current valuations in the artificial intelligence era.
- Technology inflection points can be measured in years, not months, and we believe we are in the early stages.
- Population adoption is expected to go from over 40% today to a critical mass by the end of the decade.
- Many people who have already used artificial intelligence, use it as an ancillary tool, far from integrated into their daily lives, which represents an opportunity to further increase adoption growth.
- The CIBC Technology Innovation Fund invests in both technology and technology-adjacent businesses and aims to outperform the Nasdaq 100 Index over the long-term. Approximately 70% to 80% of the portfolio is invested in artificial intelligence related themes, given the potential for significant growth over the next decade.

Background

Artificial intelligence related stocks have had an exceptional 2025, continuing a historic run that started in 2023.

Company Name	Cumulative Returns (%): Jan 1, 2023 to Sept 11, 2025	Cumulative Returns (%): YTD 2025
NVIDIA Corp	1,113	32
Broadcom Inc	570	56

Source: Morningstar Direct, as at September 11, 2025. Currency: Base Currency (USD).

Companies like Nvidia and Broadcom are up 32% and 56% respectively, year-to-date in 2025, and have increased by over 1,113% and 570% cumulatively since 2023. After such a strong rally, many investors have declared artificial intelligence (AI) stocks to be overvalued. Overvaluation concerns are not new: in 2023 and 2024, many investors felt they had missed the rally, and in 2025, concerns about the future persist. This paper dispels the notion that AI and technology stocks are overvalued, and explains why we believe the growth potential for artificial intelligence remains in its early stages.

Current technology cycle and valuations

Nvidia has been a significant contributor to the artificial intelligence rally. As of September 11, 2025, Nvidia trades at a trailing price-to-earnings ratio of 52x, compared to the broader S&P 500 Index at 25x. A naive comparison of the two would indicate that Nvidia is overvalued. Though trailing earnings estimates (often referred to as trailing twelve months, or TTM) are often the most accessible valuation ratios for investors, this comparison is inherently flawed because companies are valued on the future, not the past. For high-growth companies, relying on the trailing price-to-earnings ratio can inaccurately indicate whether a stock is over- or undervalued. This approach values companies based on current business performance, rather than future potential and growth. Put differently, investors aren't investing in Nvidia because of its growth today, but because of where they believe Nvidia will be in the future.

Given this perspective, assessing Nvidia based on projected future earnings growth over the next two years results in a drastically different valuation comparison.

Nvidia: Forward 2-year growth and valuation

Source: Bloomberg. As at September 11, 2025. For illustrative purpose only.

Nvidia is more attractively valued today based on 2-year estimates than in 2023 and 2024. Its earnings growth has been so significant over the last few years (charcoal line) that it's more than offset the significant price appreciation.

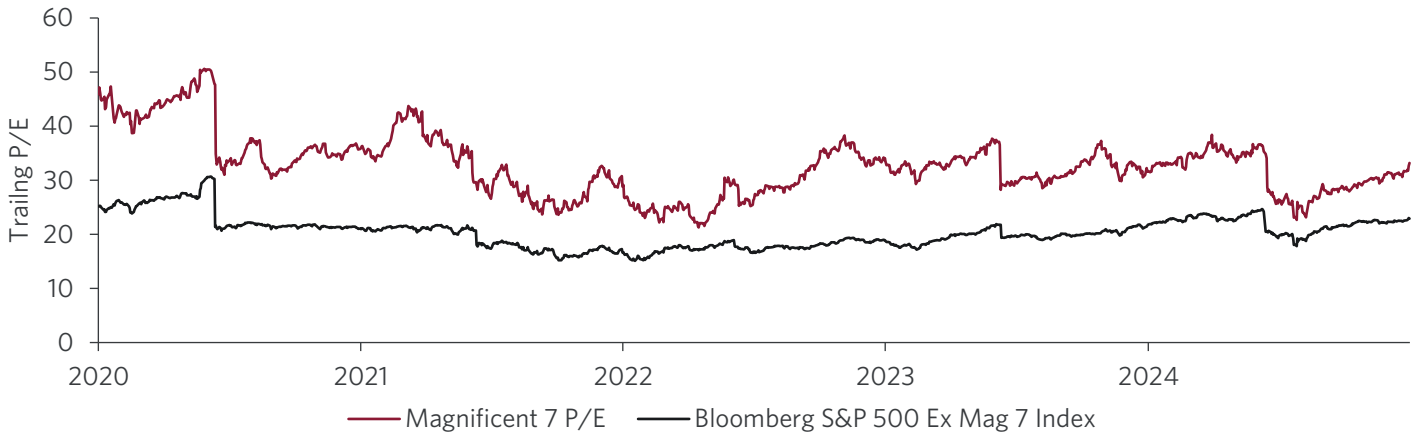
The obvious counter to this logic, is that 2-year forward estimates are based on forecasts and speculation rather than fact. However, most of this growth has been announced by hyperscalers (which purchase Nvidia chips) such as Microsoft, Meta, Google, and Amazon with capital expenditures projected to rise by 25% in 2026 (Source: Bloomberg Intelligence and Nvidia Q3 Earnings Call as at September 8, 2025). These companies are expected to spend $600 billion next year on AI Infrastructure, and $3-$4 trillion through 2030 (Source: Bloomberg Intelligence and Nvidia Q3 Earnings Call as at September 8, 2025).

Even Nvidia themselves, just a year and a half ago, announced that their total addressable market (TAM) was $1 trillion, comprised of data centers, autonomous vehicles and robotics, enterprise digitalization and gaming spend. In their latest earnings call on August 27, 2025, they revised their total addressable market upward from $1 trillion to $4 trillion, highlighting the significant growth and the powerful new investment cycle they have catalyzed. This is why a company like Nvidia, based on forward estimates, actually appears more reasonably valued than in previous years. The denominator, or the earnings component of the 2-year forward price-to-earnings ratio, has grown rapidly.

What about the Magnificent 7?

The Magnificent 7, comprised of Nvidia, Amazon, Meta, Apple, Tesla, Alphabet and Microsoft, have consistently traded at a premium multiple over the past 5-years compared to the remainder of the S&P 500 Index when examining the trailing price-to-earnings ratio.

Magnificent 7 vs. Bloomberg S&P 500 ex Magnificent 7 – Historical trailing P/E ratio

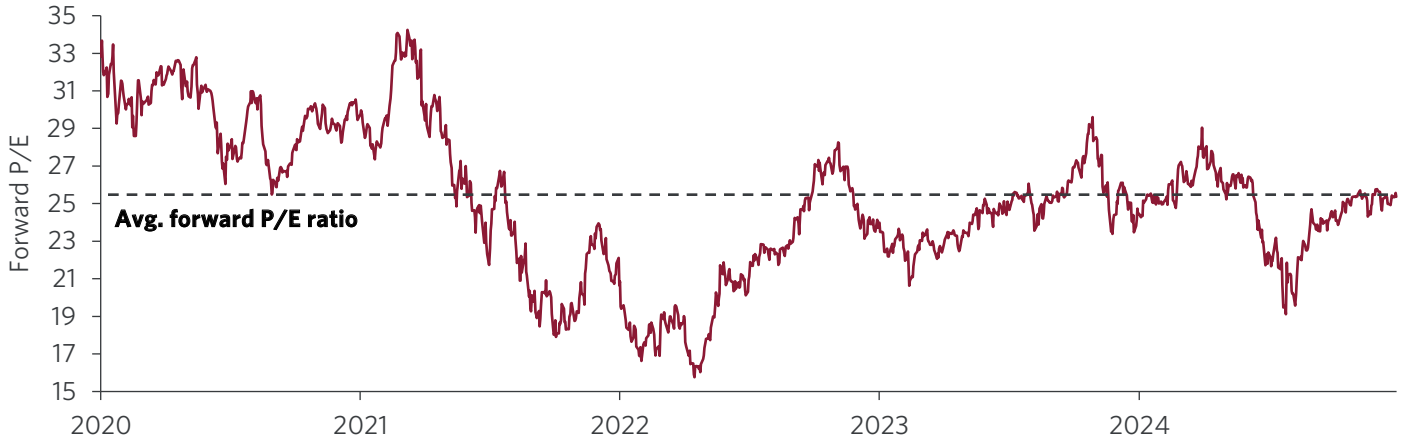


Source: Bloomberg. As at September 11, 2025.

In September 2020 (five years prior), the Magnificent 7 were trading at a 47x trailing P/E, in comparison to the remainder of the market at a 25x trailing P/E. At the time, if one believed the technology mega-cap companies were overvalued, they would have missed out on a cumulative return of 279% for the Magnificent 7, compared to an 84% return for the S&P 500 ex Magnificent 7.

If we were to instead use the forward 2-year P/E ratio of the Magnificent 7, similar to the Nvidia illustration, the story changes dramatically yet again.

Magnificent 7: Forward 2-Year P/E ratio



Source: Bloomberg. As at September 11, 2025. For illustrative purpose only.

The Magnificent 7 appear far less expensive in comparison to much of 2023 and 2024. In addition, when we compare its current valuation to their average valuation over the last five years, they appear fairly valued for their growth profile. Our conclusion: Valuations at current levels should not dissuade investors from gaining exposure to the AI-driven technology cycle.

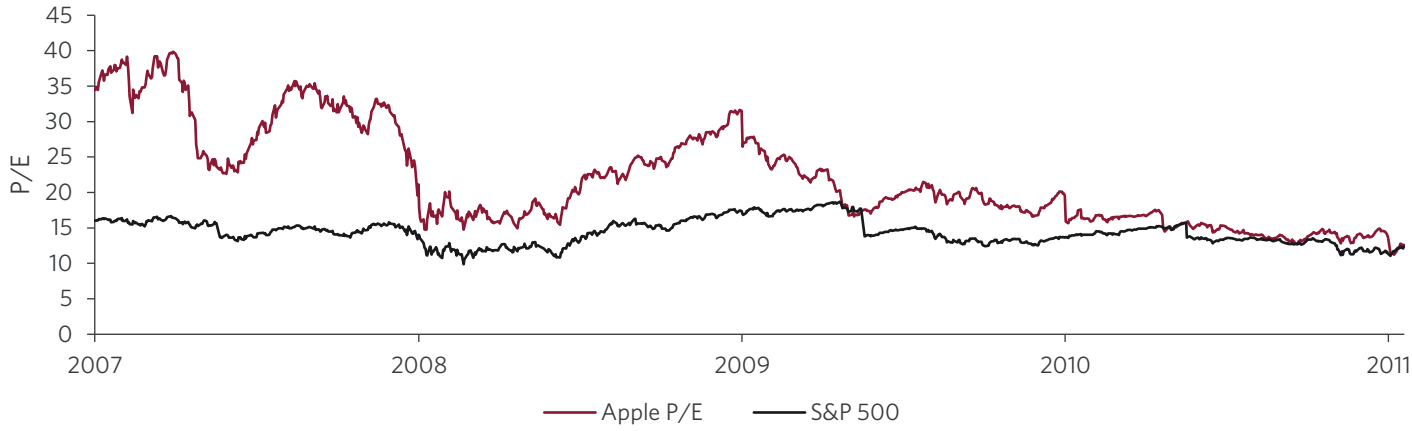
How does the artificial intelligence technology cycle compare to historical ones?

In terms of the stage of technological adoption, we are still in the early innings. Generative AI is considered to have entered the mainstream globally in 2023 with the public release of ChatGPT by OpenAI, so we are just over two and a half years into the Generative AI adoption cycle.

When we look at these types of market environments, the PC era lasted over ten years from the mid-80s to the peak of the tech bubble in 2000. In that span, Microsoft and Intel generated 80% of the sector's operating profits and achieved a 51,800% and 10,295% cumulative return respectively (Source: Morningstar Direct). The smartphone era lasted around fourteen years, and a company like Apple captured 80% of the sector's operating profits and generated a cumulative return of 4,711% (Source: Morningstar Direct). Technology inflection points can be measured in years, not months.

During the last technological inflection point, Apple commanded a premium valuation based on the trailing P/E ratio in comparison to the broader S&P 500 Index for over four years.

Apple vs S&P 500: P/E ratio



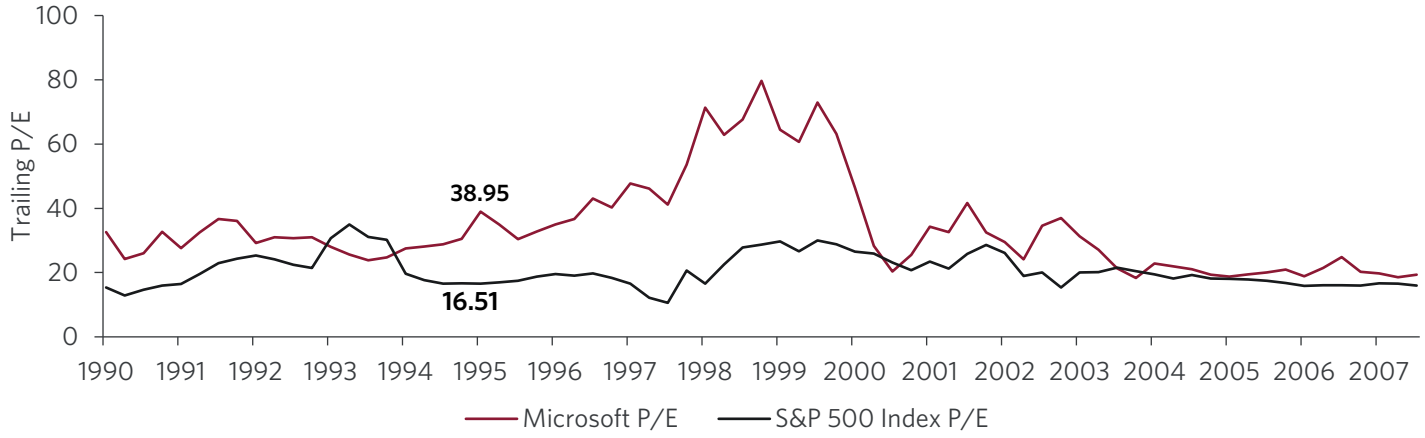
Apple stock: cumulative return

Source: Bloomberg. As at September 11, 2025. From October 1, 2007 to October 18, 2011.

Throughout that timeframe, Apple was up around 170% while the remainder of the market was down approximately -12%. A premium valuation in the smartphone era did not impact the significant outperformance of Apple over the broader S&P 500 Index.

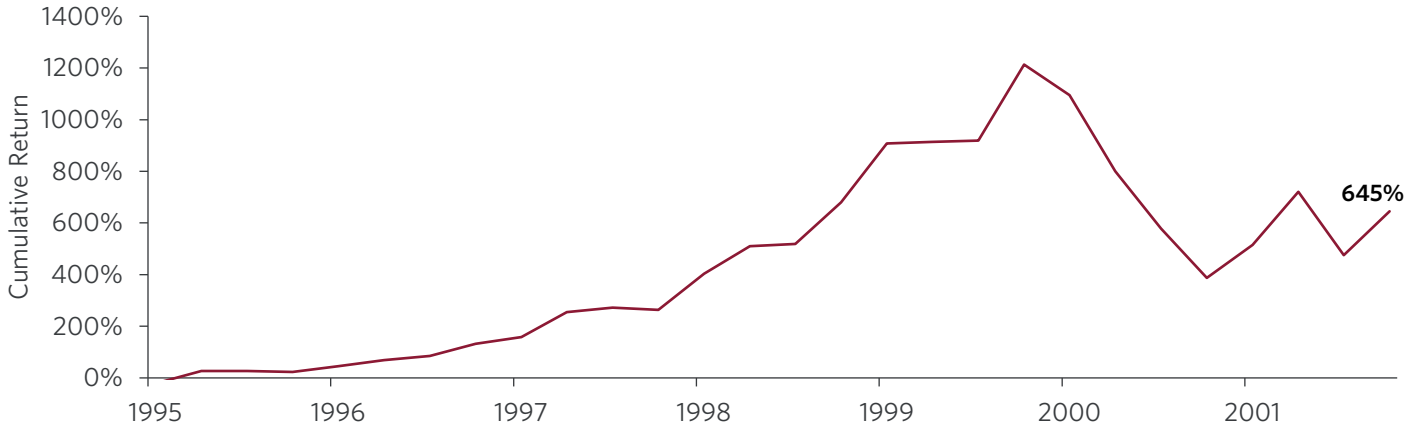
The PC era is even more interesting given it included both a boom and bust cycle for technology with the tech bubble in 2000. In 1995, Microsoft commanded a premium multiple based on the trailing P/E Ratio. At just over double that of the S&P 500 Index, it was comparable to the relative valuation gap of Nvidia and the broader market today.

Microsoft vs. S&P 500: historical trailing P/E ratio



Source: Bloomberg. As at September 11, 2025.

Cumulative return (%): Jan 1, 1995 to Dec 31, 2001 (inclusive of tech bubble)

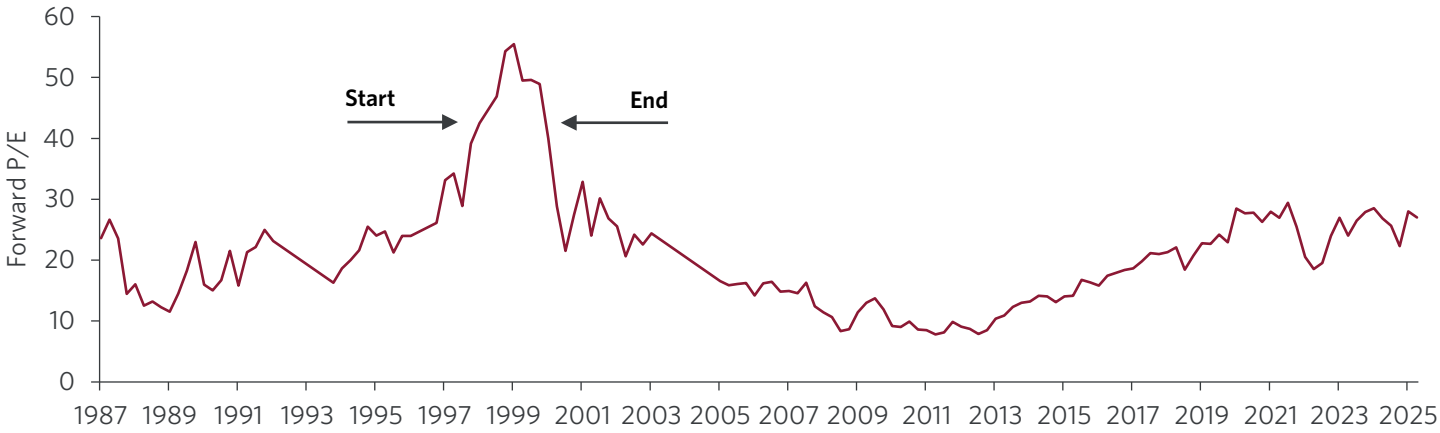


Source: Bloomberg. As at September 11, 2025.

If one were to invest from January 1, 1995 to December 31, 2021, which would include the collapse of the tech bubble in 2000, the cumulative return would be around 645%, another data point illustrating that premium valuations do not necessarily imply a stock is overvalued.

However, a contrarian would assert that those who invested in 1995 did well, but those who invested in 1998 or 1999 would not have fared as well. While true, markets also looked expensive during those timeframes when using the 2-year forward P/E ratio discussed earlier in this paper. Using valuation as a guide, by 1998/1999 investors would have started to reduce exposure.

Forward 2-Year P/E ratio: Microsoft



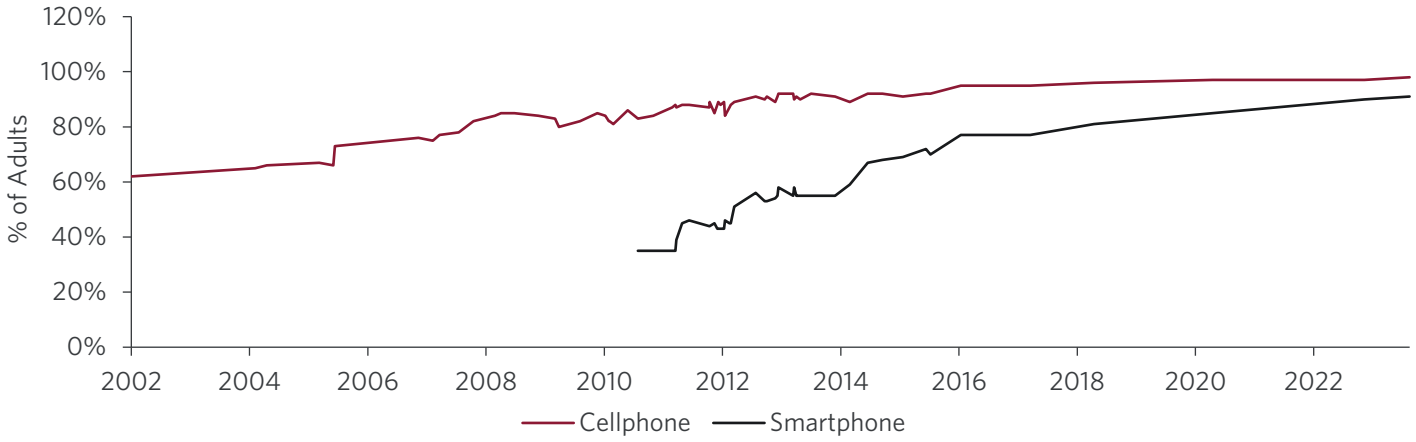
Source: Bloomberg. As at September 11, 2025. For illustrative purpose only.

Microsoft's 2-year forward P/E Ratio looked expensive between 1998 and 2000, far exceeding its average valuations during the PC era. It also exceeded current valuations in the artificial intelligence era and appeared frothy compared to the 24.7x that Nvidia carries today. So while technology stocks can inherently be more volatile than others, historical technology cycles lead us to believe that current valuations don't look excessive. Today's Magnificent 7 valuations are not indicative of a bubble.

Why will the growth continue?

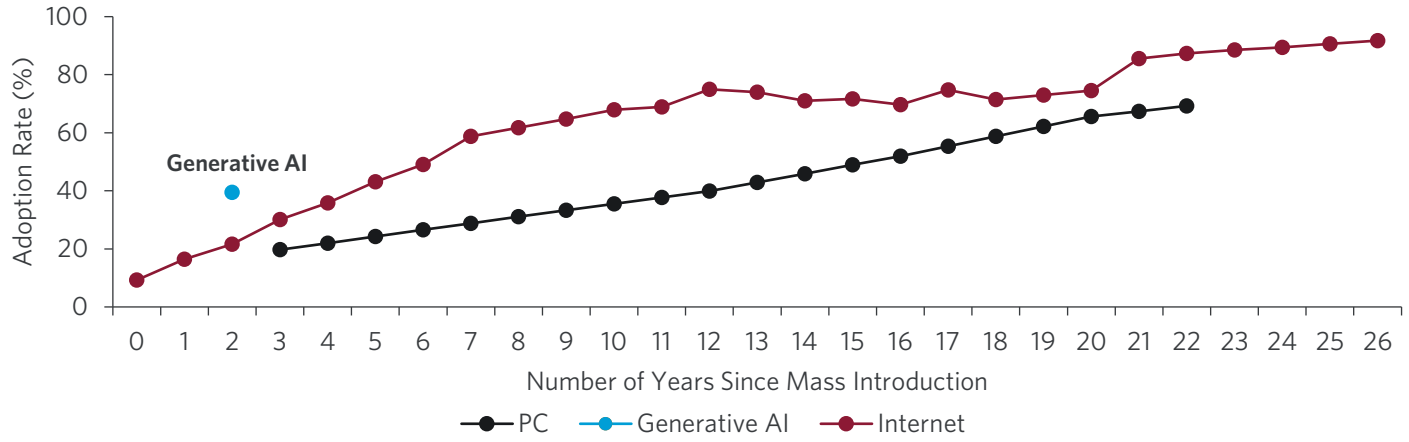
The first part of this paper was aimed at alleviating fears related to investing in technology and artificial intelligence themes at current prices and valuations. The equally important second part of this paper aims to show that the rapid growth we've experienced over the last two and a half years is still at its infancy. To help illustrate, we once again look at the technology inflection points over the last 45 years.

% of US adults who say they own a...



Sources: Real-Time Population Survey, Current Population Survey,. U.S. Census Bureau and the U.S. Bureau of Labor Statistics (BLS). As at June 30, 2024.

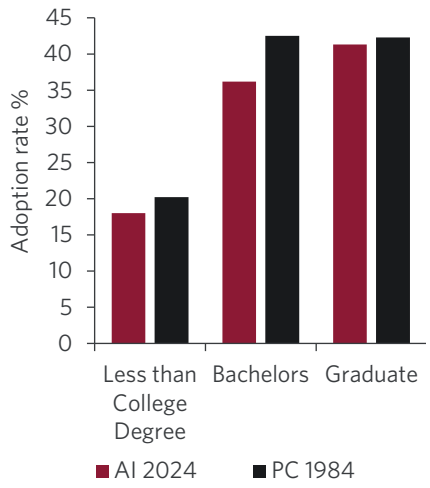
Adoption rate (%) at work and home of new technologies*



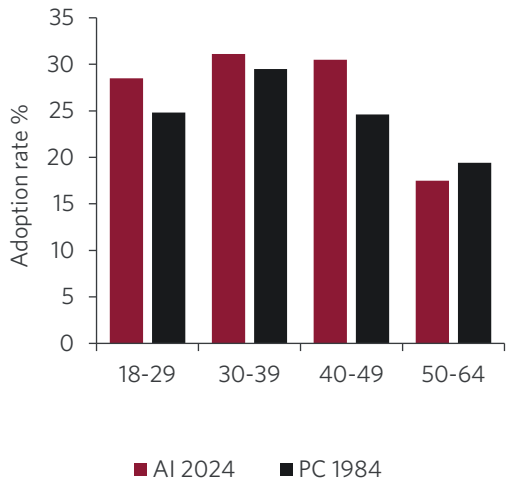
Sources: Real-Time Population Survey, Current Population Survey, International Telecommunication Union and authors' calculations. The horizontal axis represents the number of years since the introduction of the first mass market product for each technology. AI usage data are from the August 2024 wave of the RPS. PC usage data are from the 1984-2003 Computer and Internet Use Supplement of the CPS. Internet:1995-2021 data from the International Telecommunication Union (ITU). The samples from the RPS and CPS include all individuals ages 18 to 64. The RPS sample size is 4,682. The sample from the ITU includes individuals of all ages. As at August 2024.

The PC and Internet each took over 20 years for adoption by a critical mass, and smartphones took around six to seven years. The adoption rates of generative AI, while rapid, currently sits at around 40% of the U.S. population ages 18 to 64 according to the real-time population survey (RPS) conducted in August 2024. The RPS is a survey conducted by members of the Federal Reserve Bank of St. Louis. Despite differences in adoption rates, the composition of usage between artificial intelligence and the PC era looks strikingly similar:

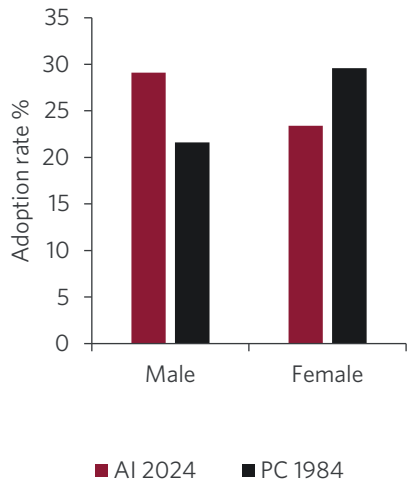
By education



By age



By sex

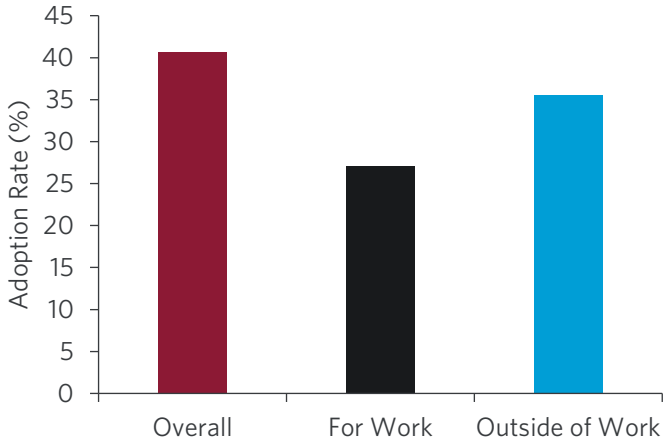


Sources: *Bick, A., Blandin, A., Deming, D.J., 2025; The Rapid Adoption of Generative AI, Federal Reserve Bank of St. Louis Working Paper 2024-027.* As at June 2025. The data source for genAI is the August and November 2024 waves of the RPS. The data source for computers is the 1984 Computer and Internet Use Supplement of the CPS. The sample for each dataset is employed individuals ages 18-64 (RPS, N = 6951).

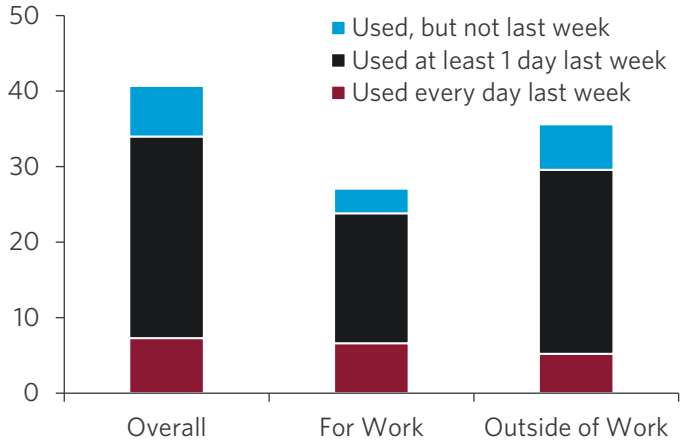
Whether by assessing education-levels, age, or sex, artificial intelligence adoption is gaining momentum across all segments of society. Individuals under the age of 50 have adopted technology faster in comparison to levels seen in the PC era. The other difference is the adoption among females has been far less than the PC era. The paper (*Bick, A., Blandin, A., Deming, D.J., 2025; The Rapid Adoption of Generative AI, Federal Reserve Bank of St. Louis Working Paper 2024-027.*) cites that high PC adoption for women was driven by high adoption among office and administrative support occupations which were highly female occupied in 1984. Regardless, the similarities highlight the trajectory artificial intelligence is following toward adoption across all areas of society.

When we analyze the 40% adoption rate in artificial intelligence, we see strong uptake for both work-related and non-work related tasks.

Share of working age adults using generative AI



Frequency working age adults using generative AI

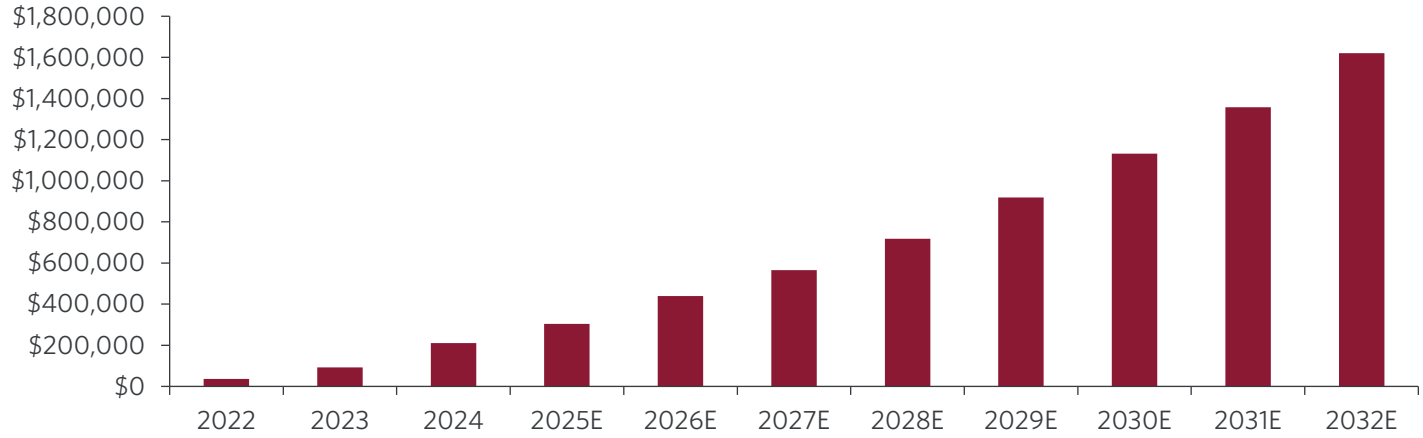


Notes: Bick, A., Blandin, A., Deming, D.J., 2025; The Rapid Adoption of Generative AI, Federal Reserve Bank of St. Louis Working Paper 2024-027. As at September 2024. The figure shows the share of respondents who use genAI for work, outside of work, and overall (either for work or outside of work). Intensity of use is broken down into every day last week, at least one day but not every day last week, and not last week . Data source for panel (b) is the December 2024 wave of the SWAA, ages 20-64. The "For Work" sample is employed individuals (N = 3516); the other bars include all respondents (N = 4698).

Population adoption is expected to increase from over 40% today to a critical mass by the end of the decade. AI growth will come from the expansion of adoption within the population, additional use cases and the increased frequency of usage. Many people who have adopted artificial intelligence use it as an ancillary tool, with integration into daily personal and work-life still limited. The vast majority of sampled individuals use it at least one day a week, with just as many individuals using it daily as those who use it less than weekly.

PCs and smartphones are at the core of what we do because of their widespread adoption. They are the primary interfaces used for work tasks, productivity, and entertainment. This paper, while crafted on a PC by a human, may someday be authored by artificial intelligence. As computational abilities and use cases become more applicable to daily life, integration becomes seamless. There is significant runway for AI growth, for ancillary productivity-enhancement, end-to-end task automation, and integration within the general population. As a result, this justifies the decision by many hyperscalers to invest significantly in AI-related capital expenditures to take advantage of these opportunities over the next decade.

Generative AI revenue projections ($millions)



Sources: Generative AI 2025 Outlook. Bloomberg as at March 24, 2025. For illustrative purpose only.

Artificial intelligence has the potential to generate $1.8 trillion in revenue by 2032 representing a 30% compound annual growth rate (CAGR) (Source: Bloomberg). This underscores the ongoing opportunity for technology and innovation, and is why we believe that the current AI-related technology cycle is still in its infancy.

How to gain exposure?

The CIBC Technology Innovation Fund invests in both technology and technology-adjacent businesses and aims to outperform the Nasdaq 100 Index over the long-term. Approximately 70% to 80% of the portfolio is invested in artificial intelligence related themes given its potential for significant growth over the next decade. As of June 30, 2025, the Fund has broad diversification across multiple areas of technology innovation, including AI Consumer (eg: Apple, Meta, Alphabet), AI Enterprise (eg: Microsoft, Service Now), and AI Semiconductors (eg: Nvidia, Broadcom). It also has exposure to Media & Entertainment (eg: Netflix), and Industrials (eg: Uber), among other themes.

The Fund retains the flexibility to invest down-cap and will do so selectively when the opportunity arises. Throughout 2025, we held companies like Datadog and Axon Enterprises, and participated in three oversubscribed IPOs related to blockchain and digital software. These investments demonstrate our ability to generate alpha through selective small- and mid-cap additions, while maintaining an overweight allocation to large-caps. They also underscore the value of active management in positioning the portfolio within the most attractive segments of the technology innovation market.

The CIBC Technology Innovation Fund is managed by Robertson Velez. Robertson spent 12 years at ATI technologies, a Canadian semiconductor company which later became part of Advanced Micro Devices (AMD). His engineering background provides a critical understanding of what drives established technologies and areas like artificial intelligence. He can sift through highly technical information or industry jargon, and then determine the investment merit, catalysts for growth, and valuation of each business. Leveraging his past experience provides an informational edge when assessing technology companies which can ultimately lead to better investment decisions.

Our aim is to outperform the Nasdaq 100 Index through our active management approach. A passive index tends to over-allocate to securities based on their historical returns, not their future prospects. Active management offers the ability to assess each company on its future merits and make decisions on whether they are worthy of inclusion within a portfolio. Robertson's background in semiconductors and as an engineer gives him a unique perspective.

The Fund will typically also have 10% more information technology exposure than the Nasdaq 100 Index, and 5% to 7% more communication services exposure (eg: Alphabet). This results in a structural overweight to technology. We therefore have more technology exposure than the Nasdaq 100 Index itself.

All of this culminates in a Fund that aims to capitalize on the artificial intelligence theme currently underway. We believe that investors with long time horizons should consider the CIBC Technology Innovation Fund when looking for potential increased growth and added octane within their portfolios. The Fund is a prime vehicle for patient capital seeking long-term growth.

We typically advocate for a "core and explore" approach to gaining exposure to large-scale technological advances. Many investors will have some level of technology exposure in a balanced or core portfolio. To enhance their growth profile, we recommend adding technology or innovation related investments as satellite positions. For such investors, we typically suggest a 10% allocation to innovation depending on their risk tolerance.

About the author

Ryan Diamant, CFA
Client Portfolio Manager, Equities

About CIBC Asset Management

At CIBC Asset Management, we believe that every customized investment solution begins with research and rigour. We specialize in a variety of investment solutions such as equities, fixed income, currency management, liability-driven investments, asset allocation, and responsible investments.

Across a spectrum of investment solutions, we commit to robust research. Dedicated sector and regional analysts focus on industry research and security-specific idea generation. Our investment professionals leverage deep and diverse expertise by sharing proprietary research across asset-class teams. By sharing insight across asset class teams, we maximize opportunities to add value to our client portfolios.

Contact us any time

To learn more about CIBC Asset Management and our investment solutions, please contact your advisor or your CIBC representative. For more insights, connect with us on LinkedIn.