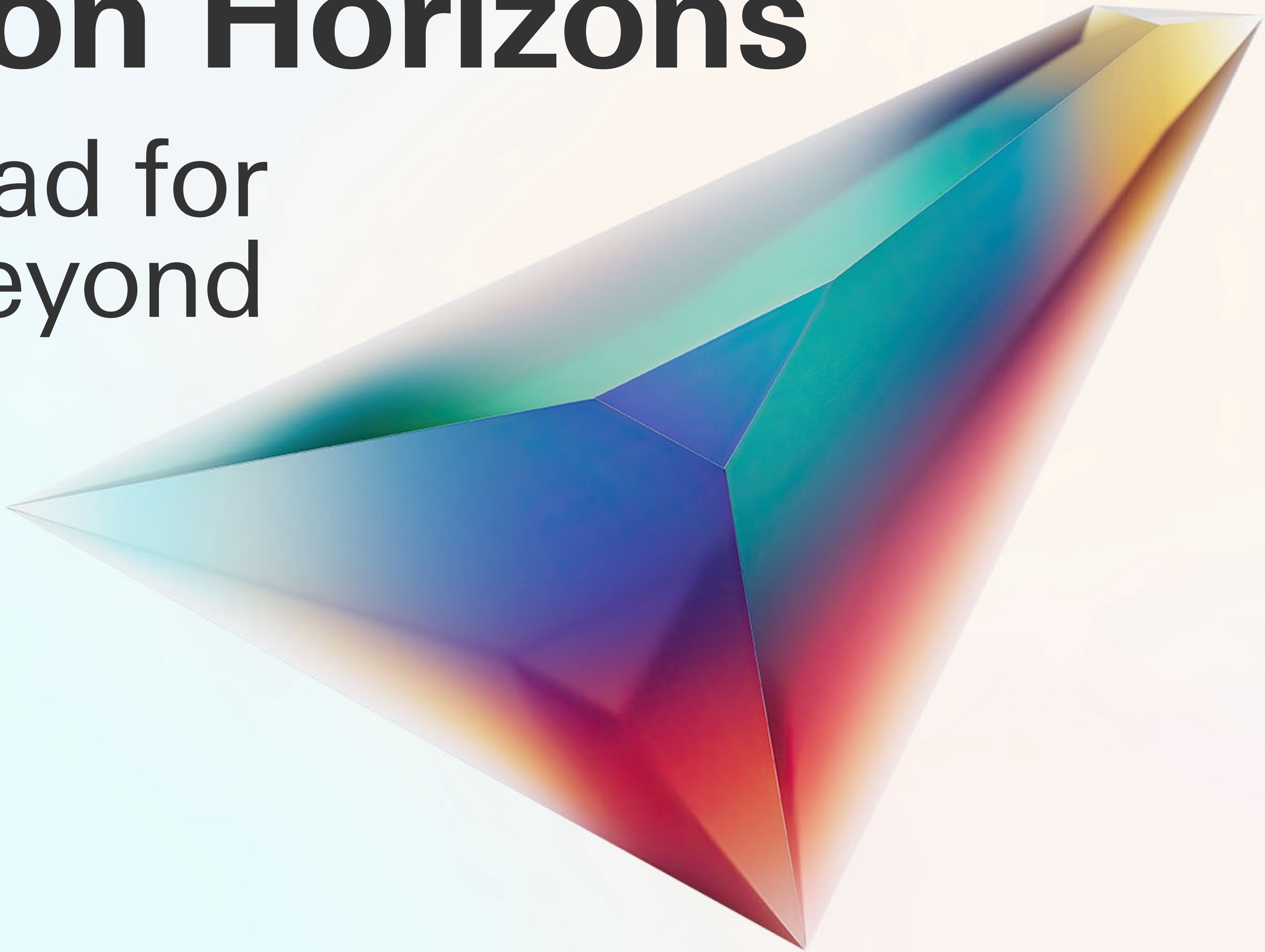
Innovation Horizons

What's Ahead for 2025 and Beyond



Q4 2024

HSBC Innovation Banking

HSBC Bank USA, N.A. Member FDIC

Innovation Horizons: Executive Summary

Disruption Supercycle 2.0: Evolutionary Shocks on Our Horizon

As the United States concludes a contentious election cycle, the innovation economy reflects upon its own recent tumult while preparing for what lies ahead. Over the past several years, the venture ecosystem has recalibrated from a volatile and exuberant capital-friendly period to an inflationary and capital-constrained period, all against the backdrop of the major technological advancements in Artificial Intelligence (AI). This transition has put a squeeze on exits, causing a substantial backlog, the repercussions of which have been felt throughout the venture ecosystem. With an incoming administration emphasizing economic growth, deregulation, and reduction in government spending, the stage is set for yet another paradigm shift. As we look into 2025, the industry is watching closely for signs of a reopening of critical exit windows through IPOs and M&A to inject much-needed liquidity into the venture capital flywheel. This turbulent and unprecedented backdrop underlies what may be the most significant innovative shift in a generation – the dawn of the new Agentic AI Age. While the impact of AI on innovation, government, and society at large remains to be seen, what is clear is that this technology has already started to reshape industries and redefine economic frameworks.

Macro Moves with New Admin	03
Pressure Builds from Liquidity Squeeze	08
Venture Responds to Exit Scarcity	14
Investment Thesis Narrows to AI Productivity	18

Macro Moves with New Admin

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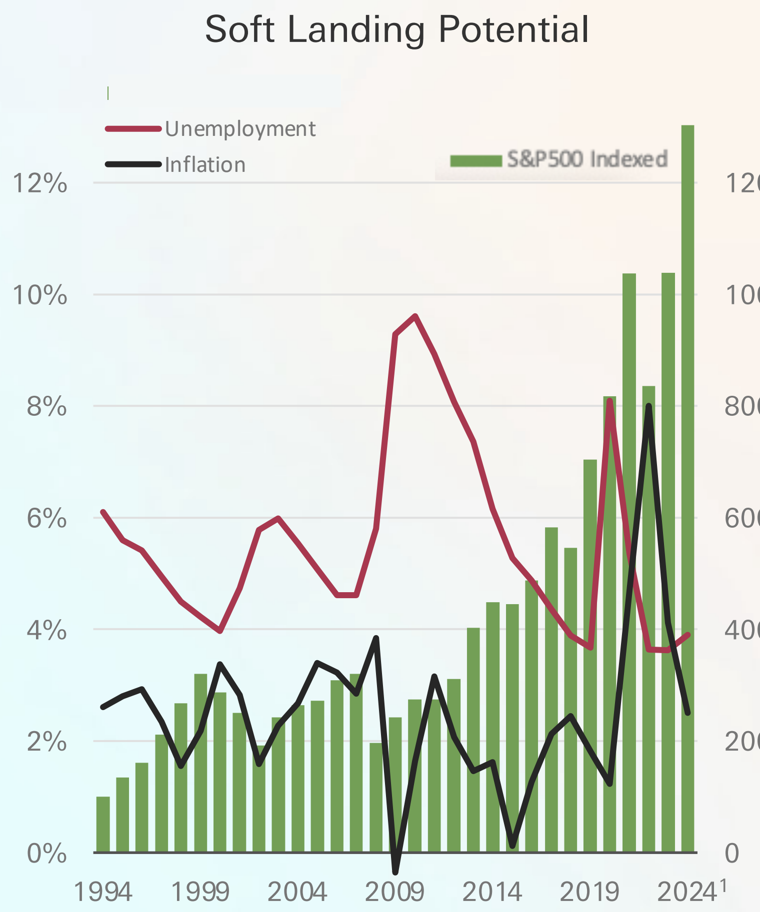
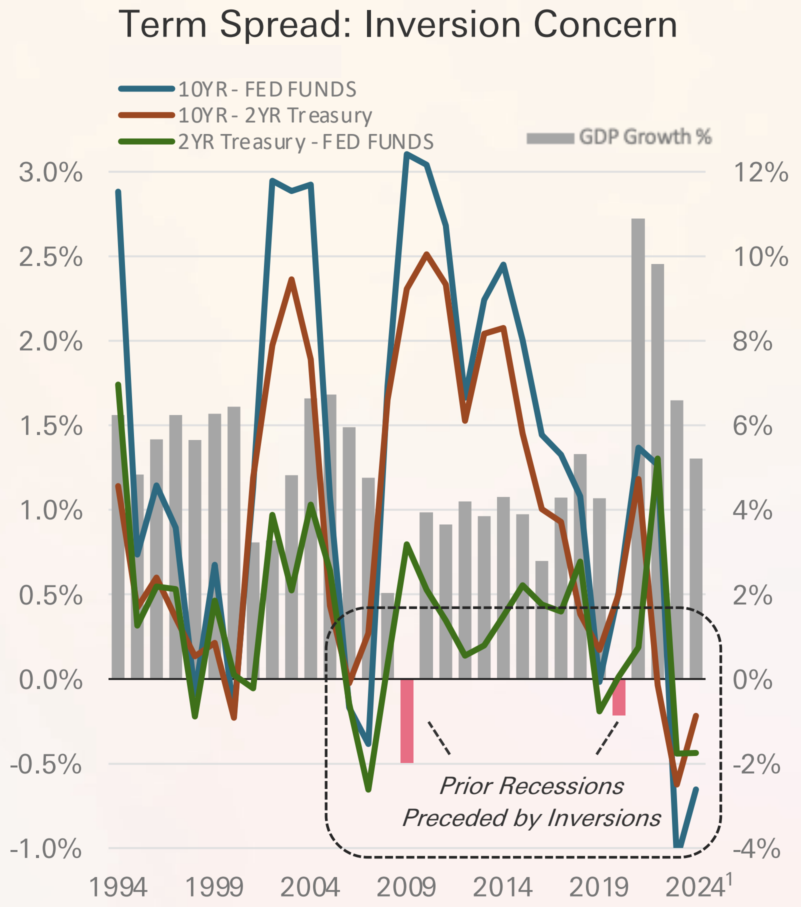
Potential for Bumpy "Soft" Landing: Recession Fears

Rosy Macroeconomic Indicators Countered by Inverted Yield Curve

- Current macroeconomic conditions present a picture of resilience, with robust stock market performance, low inflation, and low unemployment. The S&P 500 index is up 67% over the past 8 quarters on the back of solid corporate earnings. Unemployment levels remain at historically low rates, while inflation, which spiked in 2022, has moderated with aggressive rate hikes.
- Despite these positive indicators, there is a notable warning signal in the bond market: an inverted yield curve — where shorter-term interest rates exceed longer-term rates. Over nearly two years, the yield curve inversion persisted, which historically predicts a recession.

Macroeconomic Indicators: 1994-2024





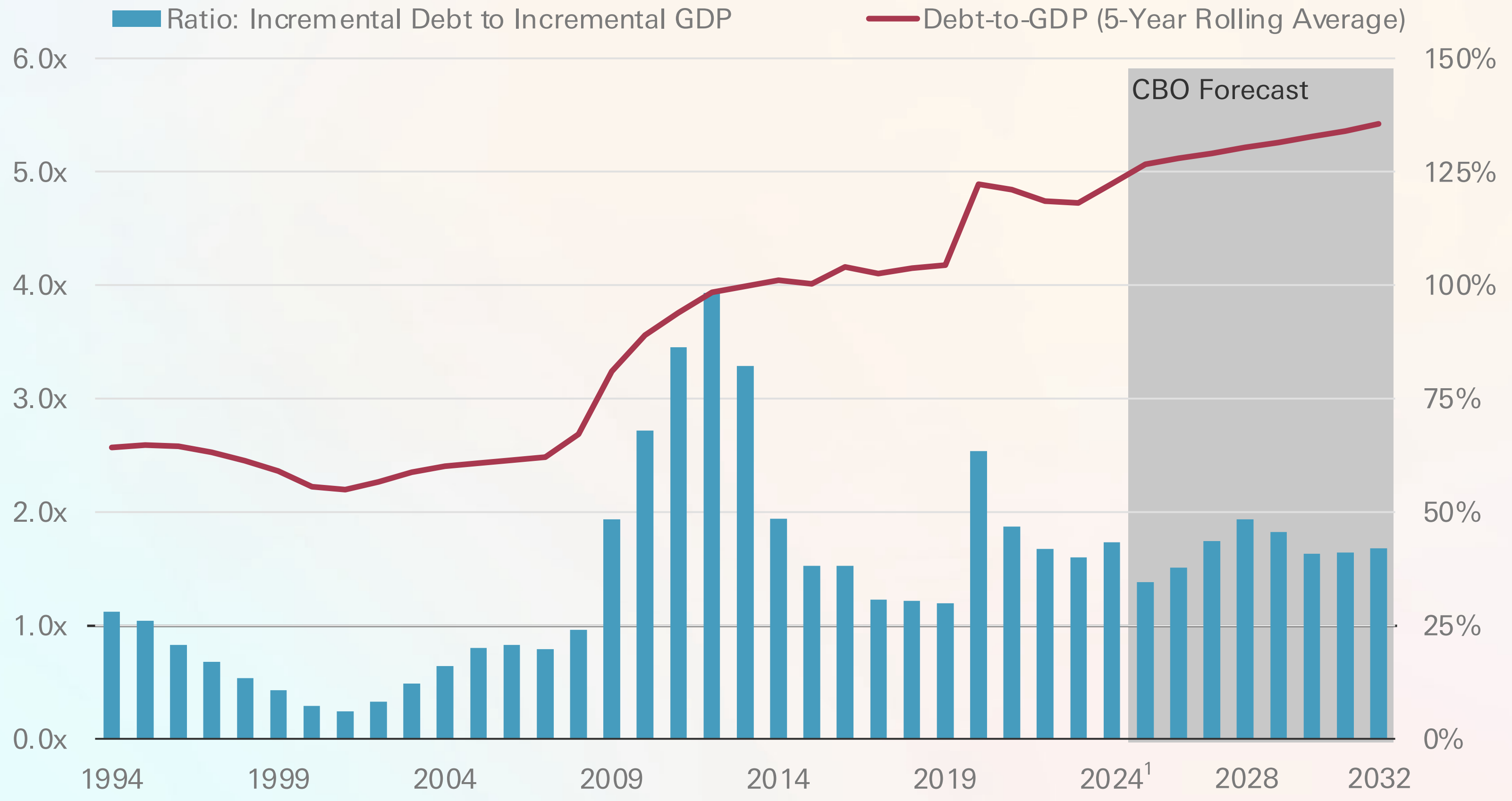
Note: 1) 2024 data presented as of Sept. 30, 2024.
Sources: US Federal Reserve Economic Data (FRED) from St. Louis Federal Reserve and HSBC Innovation Banking analysis.

Looming Federal Debt Crisis on the Horizon

Gov. Spending Drove GDP, but Path Forward May Require Combination of Actions

- Since the Global Financial Crisis, incremental US government spending has consistently outpaced GDP growth, where the ratio of incremental debt to incremental GDP exceeds 1.0x. The current trajectory of the increasing Debt-to-GDP ratio (136%) could potentially spiral into crises that jeopardize the country's long-term economic stability.
- To return the Debt-to-GDP ratio back to even Pre-COVID levels (104%), the incoming administration cannot achieve that goal through strategic federal spending cuts alone, but must also support non-governmental economic growth through investment in technologies to improve trends in labor efficiency.

Growing US Debt Problem and Forecast

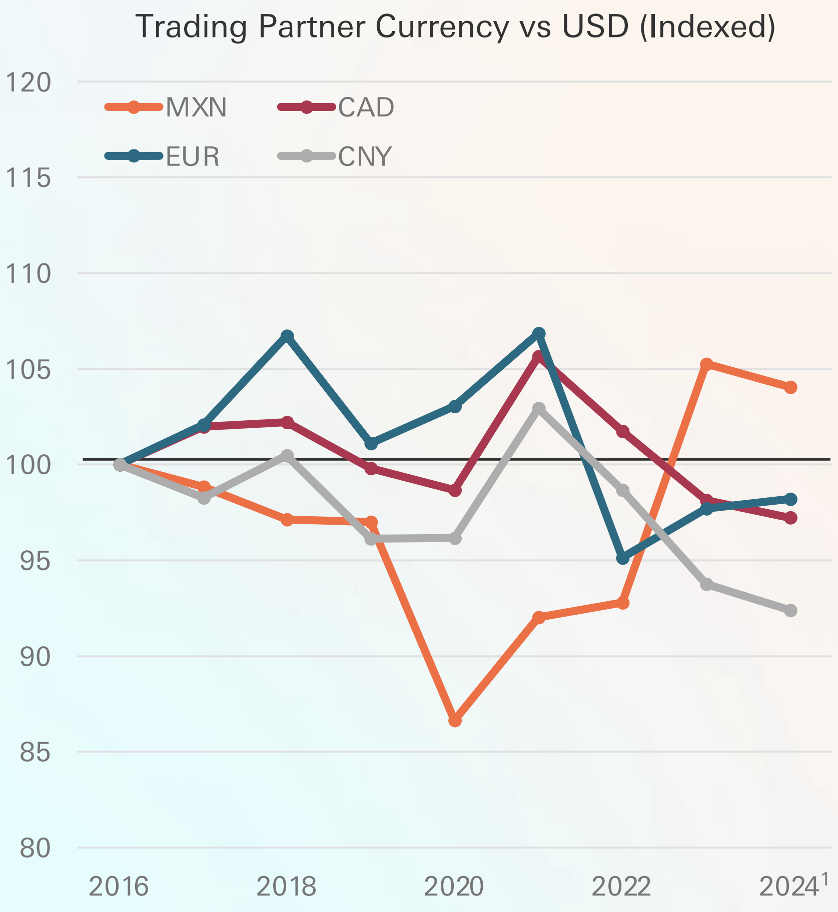


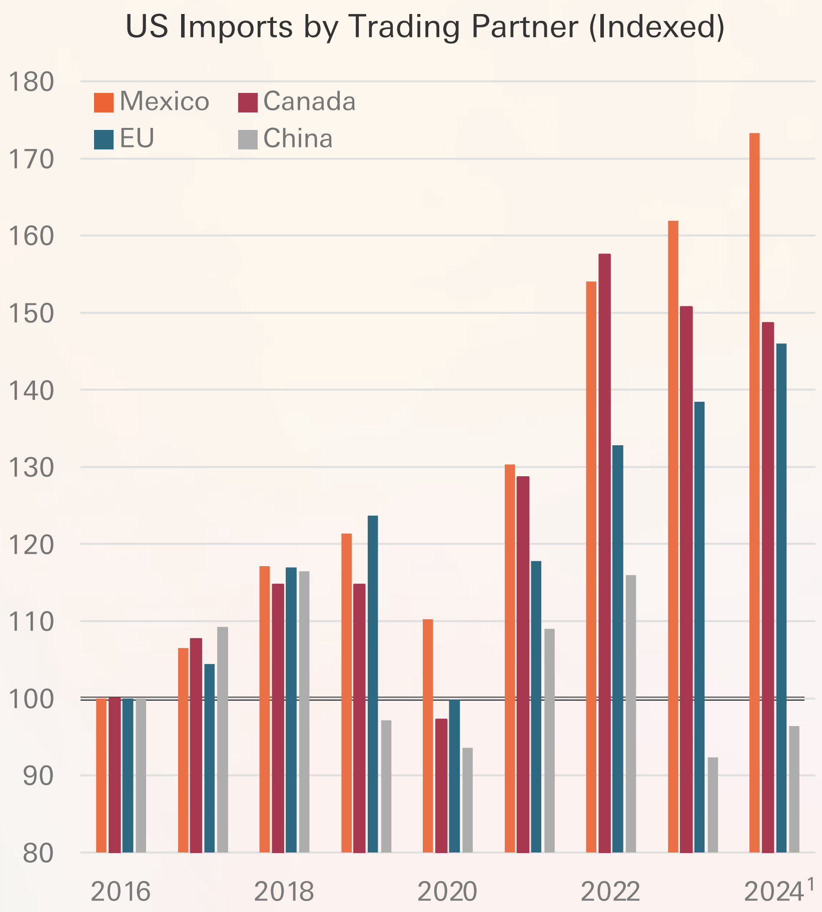
Note: 1) 2024 data presented as of Sept. 30, 2024.
Sources: US Federal Reserve Economic Data (FRED) from St. Louis Federal Reserve, Congressional Budget Office (CBO), and HSBC Innovation Banking analysis.

Trump 1.0
Capital Always Finds a Way: Tariff Impacts and Nearshoring

- During his first administration, Trump launched a series of tariffs on goods from China, citing concerns over unfair trade practices and intellectual property theft while strengthening economic relationships with Mexico and Canada with the USMCA.
- Since that time, China's official Foreign Direct Investment increased nearly 300% according to the Mexican Government, while The Rhodium Group reports a figure nearly 6x the official figures. The strategic pivot by firms to use Mexico as a manufacturing hub to circumvent tariffs has led Trump to include North American neighbors in tariffs, likely repositioning the USMCA in 2025 and potentially putting upward pressure on forecasted inflation.

Effects of Nearshoring to Mexico on Exchange Rate and Imports





Note: 1) 2024 data as of Sept. 30, 2024.
Sources: US Federal Reserve Economic Data (FRED) from St. Louis Federal Reserve, Data México from Secretaría de Economía, Gobierno de México, The Rhodium Group, and HSBC Innovation Banking analysis.

Trump 2.0
Deregulation as a Catalyst for Growth

- The Trump administration's targeted appointments are intended to serve as catalysts for significant shifts in federal policy, ushering in an era of deregulation, while advancing fiscal policies that stimulate investment, lower taxes, and encourage economic growth.
- The incoming administration appointees may pursue policies that are potential headwinds to the recent cash flow acceleration of Big Tech, Big Pharma, and Defense Primes. However, these policies may serve as tailwinds for disruptive, venture-backed innovation companies, especially those ushering in the efficiency promise of the burgeoning AI era.

Administration Leadership: Broader Landscape

Area of Impact	Economic Growth			Startup Exit Environment			Broader Tech
Department	**Federal Reserve**	**Treasury**	**Commerce**	**FTC**	**SEC**	**DOJ**	**FCC**
Current Head	Jerome Powell	Janet Yellen	Gina Raimondo	Lina Khan	Gary Gensler	Merrick Garland	Jessica Rosenworcel
Term End	Q2 2026	No set term	No set term	Q4 2024 (expired)	Q2 2026[3]	No set term	Q2 2025
Proposed[1]	N/A	Scott Bessent	Howard Lutnick	Melissa Holyoak	Paul Atkins	Pam Bondi	Brendan Carr

Administration Leadership: Sector-Specific

Sector of Impact	FinTech		Life Sciences		CleanTech		Defense / Aerospace	
Department	**FDIC**	**CFTC**	**HHS**	**FDA**	**EPA**	**DOE**	**DOD**	**Dept. of Government Efficiency[2]**
Current Head	Martin Gruenberg	Rostin Behnam	Xavier Bacerra	Dr. Robert Califf	Michael S. Regan	Jennifer Granholm	Lloyd J. Austin III	*New Dept.*
Term End	Q4 2027[3]	Q2 2026	No set term	No set term	No set term	No set term	No set term	*New Dept.*
Proposed[1]	TBD	TBD	Robert F. Kennedy Jr.	Martin Makary	Lee Zeldin	Chris Wright	Pete Hegseth	Elon Musk & V. Ramaswamy

Notes: 1) As of December 4, 2024. 2) Expected to be created as a Committee, rather than a Department which may only be formed by Congress. 3) Expected to resign before end of term.
Sources: Individual government department websites and HSBC Innovation Banking analysis.

Pressure Builds from Liquidity Squeeze

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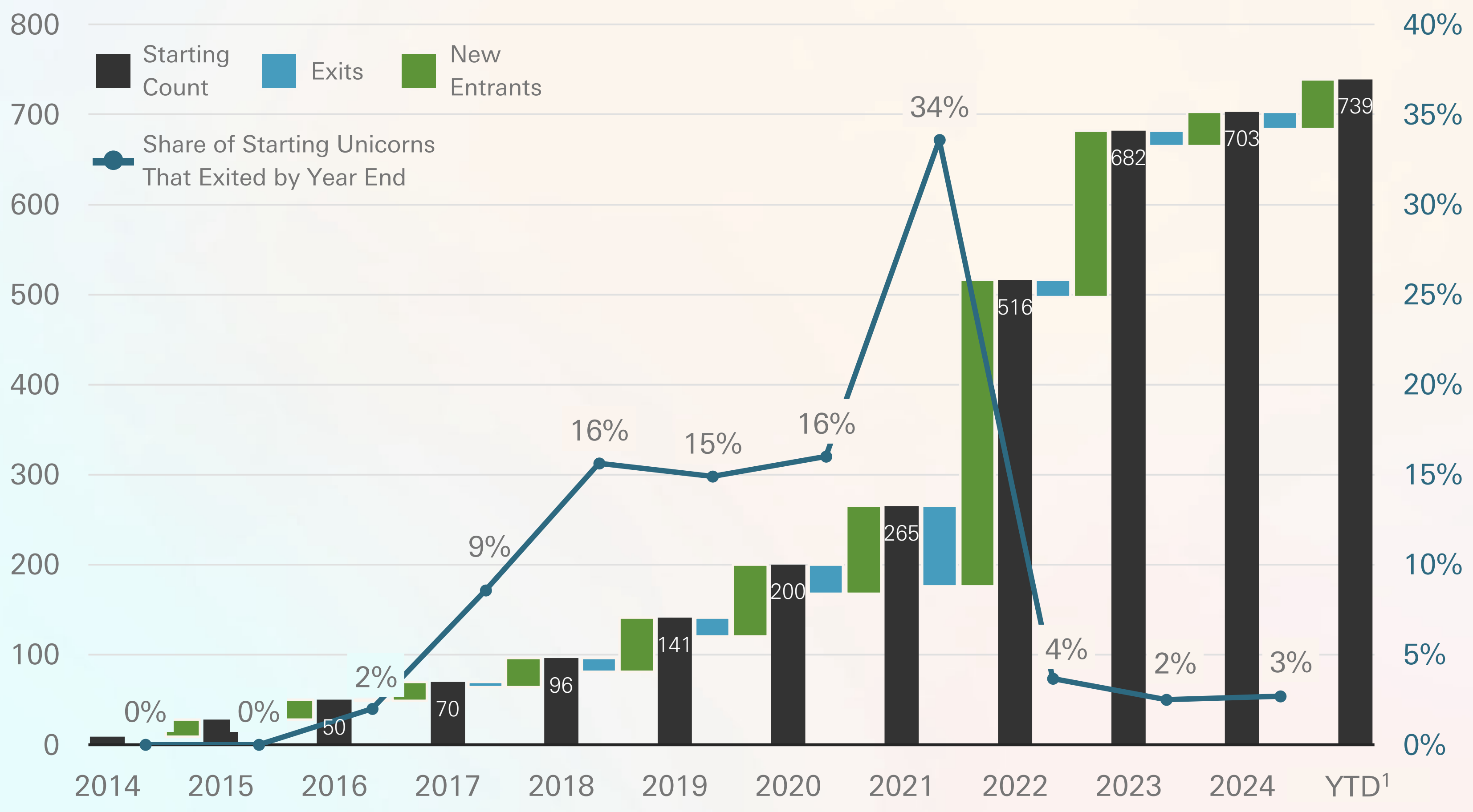
Unprecedented Backlog of Privately-Held Companies
Quiet Exit Market for Billion-Dollar Darlings Clogs the Venture Pipeline

- The exceptional 2021 boom provided an incredible return of capital to investors with more than one-third of the U.S. billion-dollar ventures built over the prior decade having achieved liquidity through an IPO or M&A. But for all the exits, four times as many new unicorns were minted in the funding frenzy.
- Following 2021's record-breaking year for VC-backed exits, the pace of exits has slowed dramatically, creating a massive backlog of billion-dollar private companies. While one-in-six unicorns exited in the last years of the 2010s, since 2022 this ratio has slid below one-in-thirty, disrupting the VC flywheel, slowing distributions, and thus new fundraising and investments.

U.S. Unicorn Count with Exits and Entrants: 2014–October 2024

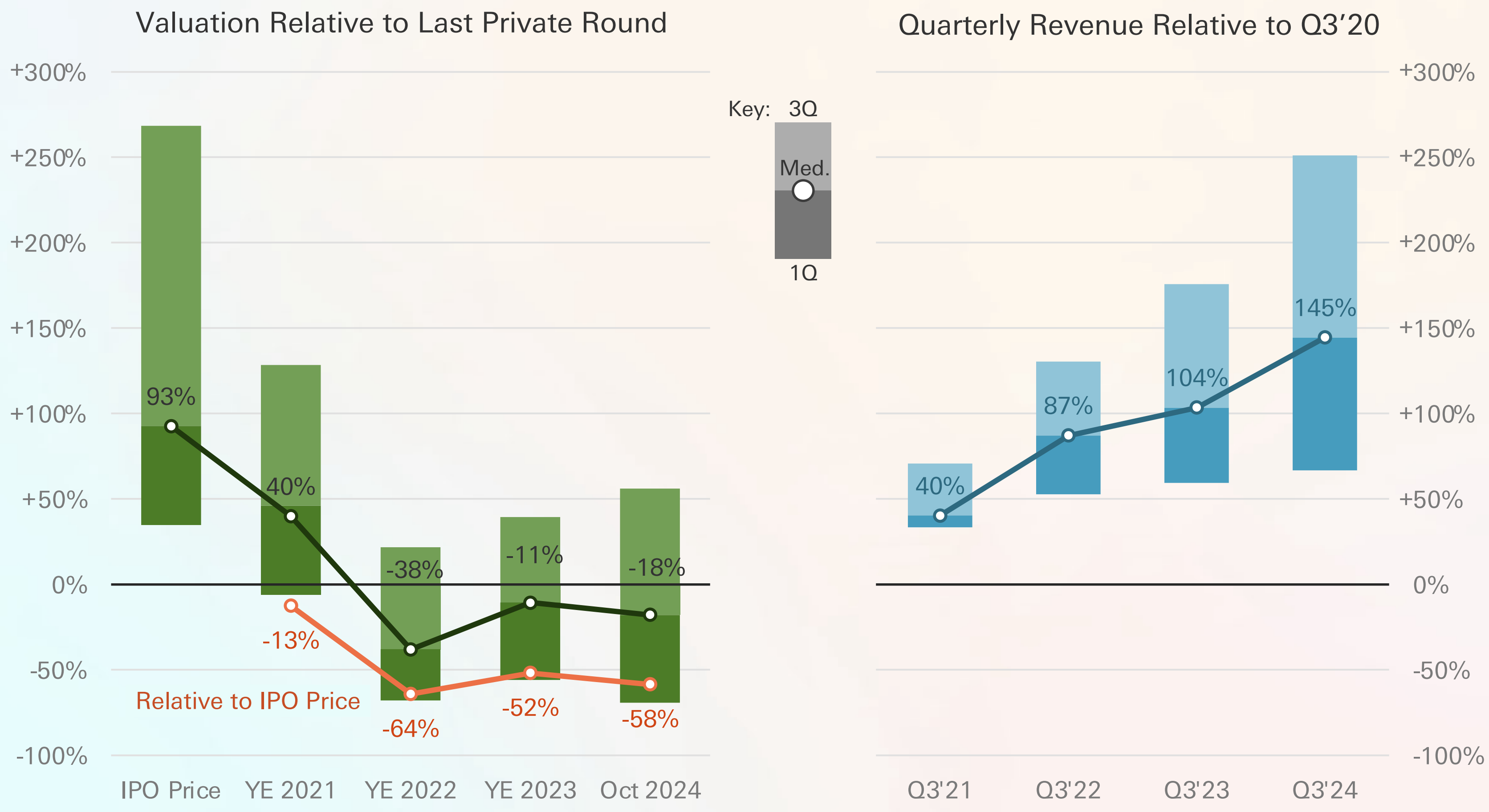


Note: 1) YTD data presented as of Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

Strong Debuts, Poor Performance
2021 Tech Offerings Priced Above Private Rounds, Now Trade Below Despite Growth

- The record number of tech IPOs struck favorable markets in 2021, with the median IPO priced at a nearly 100% step-up from the most recent prior private valuation.
- By the end of 2022, under intense inflation pressures, market conditions had soured substantially, pushing valuations down nearly two-thirds from the IPO price, thus dropping most of these companies below even their final private post-money.
- Steady revenue growth for this cohort, with an average revenue base now 2.5x larger than at the IPO, was offset as multiples dropped by over half, pushing valuations underwater and weighing down the returns for those IPO investors.

Cohort of 2021 U.S. Venture-Backed Tech $1B+ IPOs

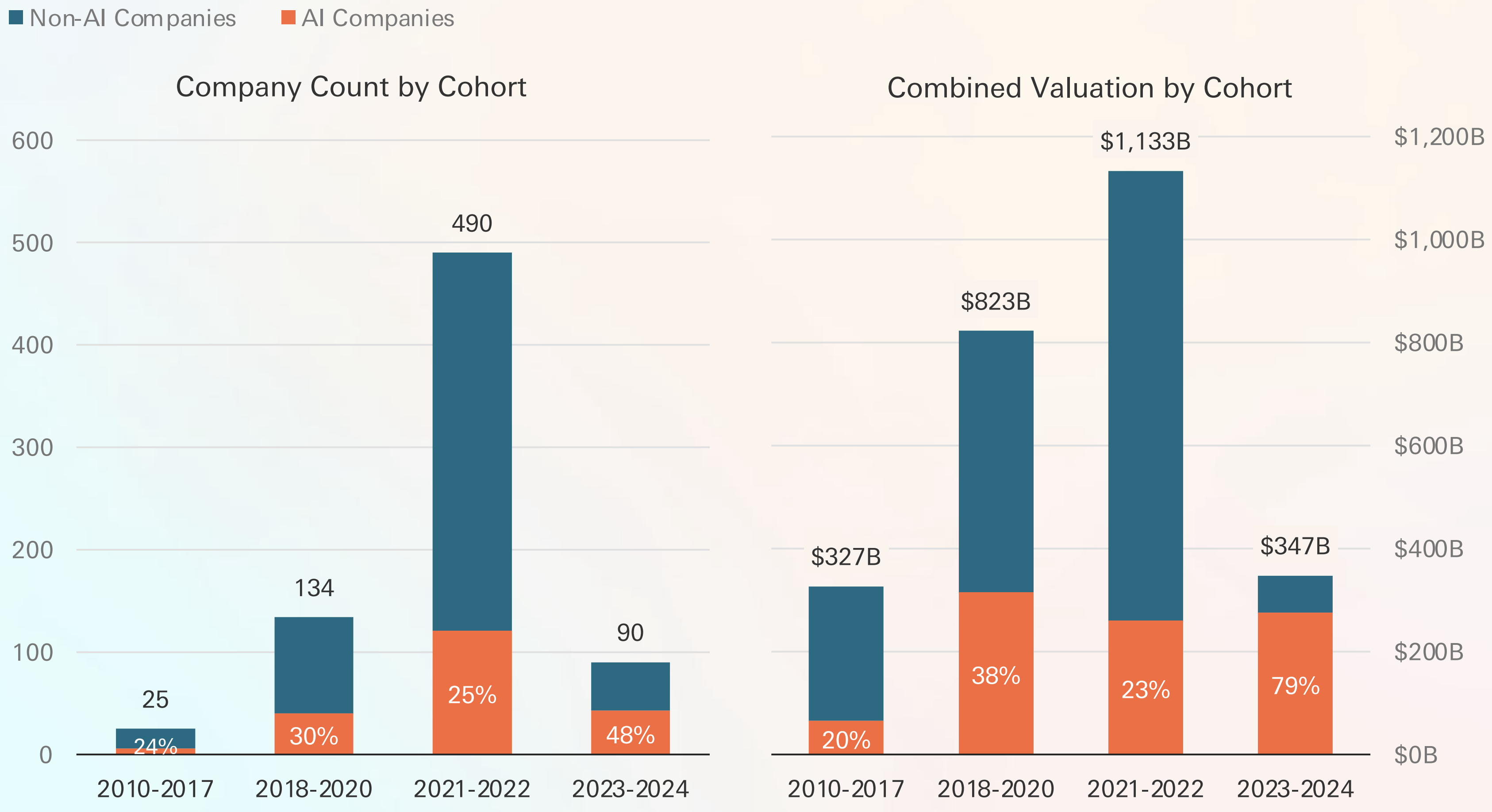


Unicorn Backlog Composition: To AI or Not to AI

The Boom Period (2021-2022) Cohort May Struggle to Return Capital

- The transition to AI Companies in the 2023–2024 cohort highlights the shift in investment priorities, with AI poised to lead the next wave of innovation and value creation in the venture capital ecosystem.
- The emphasis on AI as a growth driver underscores a growing misalignment between the broader unicorn backlog and evolving market demand. The majority of the backlog—particularly from 2021 and 2022— are Non-AI Companies. This cohort worth nearly $1T faces mounting risks of valuation markdowns as investor attention shifts toward AI Companies.

U.S. Unicorn Backlog Grouped by Year of First Reaching Unicorn Status



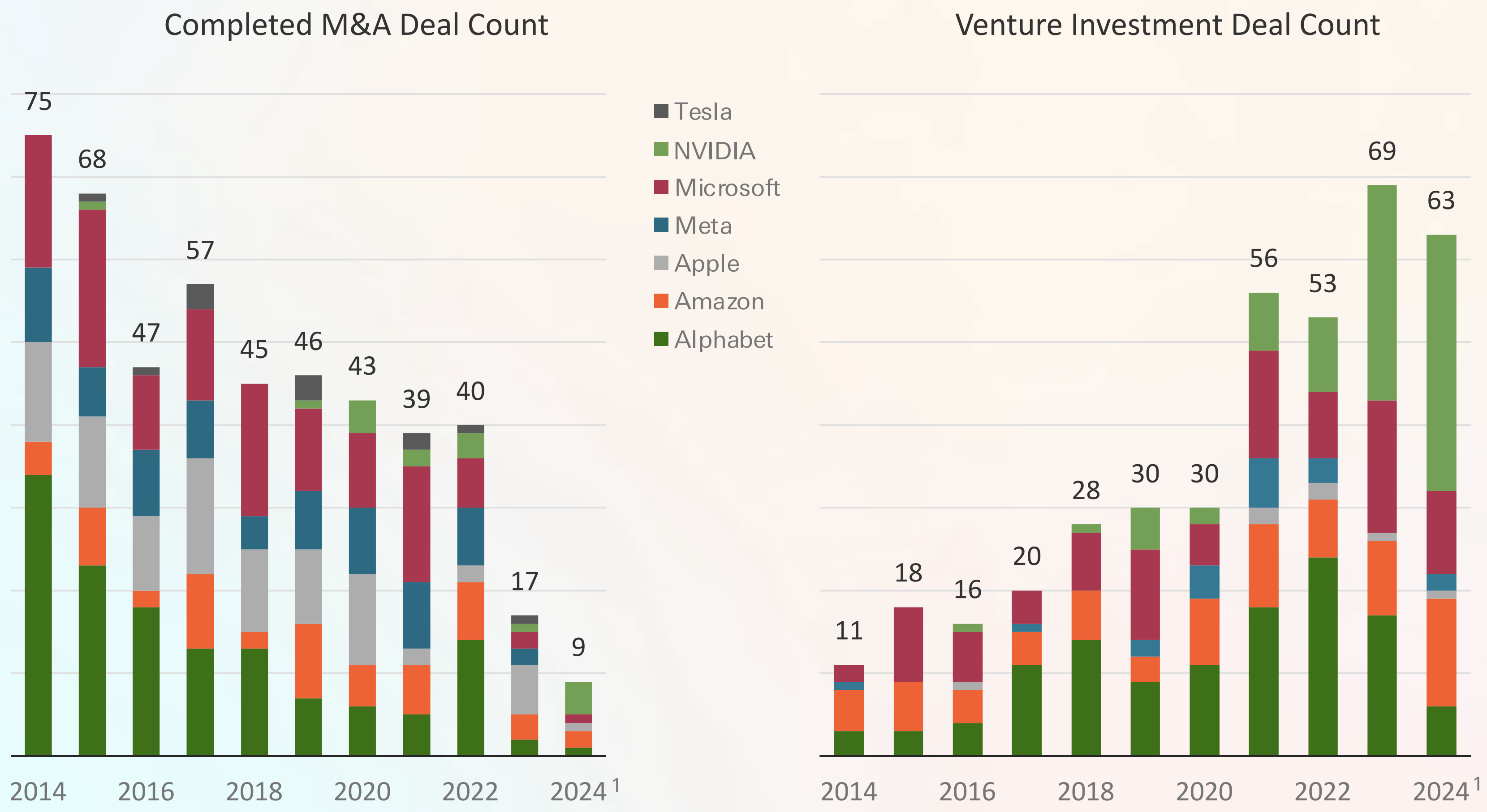
Note: Data shown as of Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

Magnificent 7: Owning vs. Supporting

Exploring the AI Frontier as a Capital Provider rather than Acquirer

- The leading technology companies have shifted strategies within their approach to external innovation amidst increased regulatory scrutiny, the changing venture investment conditions following the 2021 boom, and the rise of AI as a strategic core.
- Like much of the venture ecosystem, the Mag7 drastically increased investments during the 2021 boom. However, unlike the broader venture ecosystem which has pulled back in the midst of a liquidity crunch, the cash-rich Mag7 are expanding investment portfolios with a concentrated focus on AI, which accounts for more than half of their venture investments since 2022.

Magnificent 7: Corporate Development Efforts



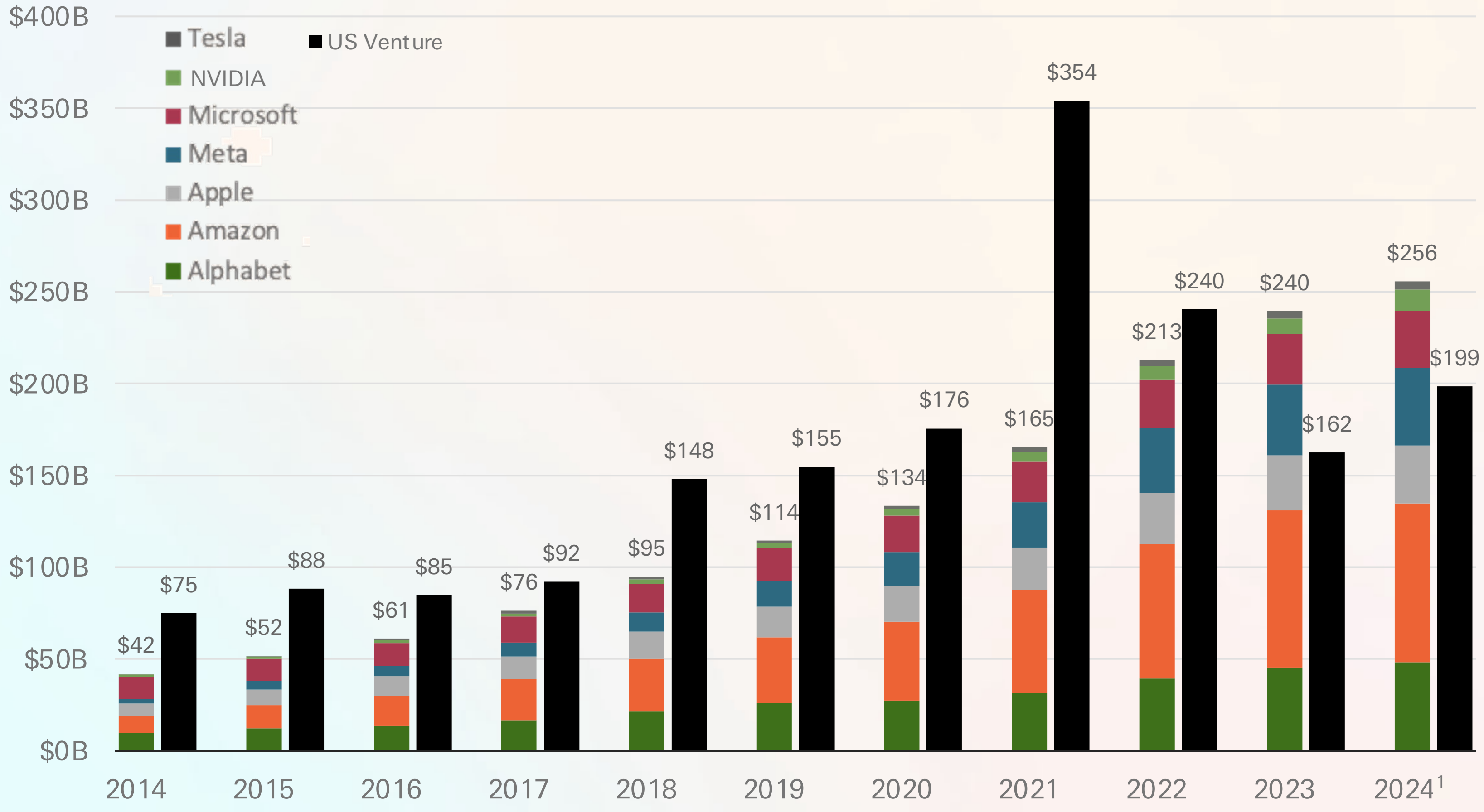
Note: 1) 2024 data shown through Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

Magnificent 7: Investing Heavily for the Future

R&D Spend from Leading Technology Corporates Surpassed Venture Investment

- While VC investing has tapered off from the 2021 boom, the largest technology companies continue to increase their collective R&D efforts as they race to define the next era of technological breakthroughs in AI.
- Leveraging tremendous growth in free cash flows from legacy businesses, the Mag7 are focused on building out core capabilities through R&D spend – now totalling more than all dollars invested in U.S. startups.
- Beyond spending today for internal innovation, the Mag7 are investing substantial capital expenditure on infrastructure for the next decade in AI.

Magnificent 7 R&D Spend vs. U.S. Venture Investment



Note: 1) 2024 data annualized for comparative purposes based on data available as of Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

Venture Responds to Exit Scarcity

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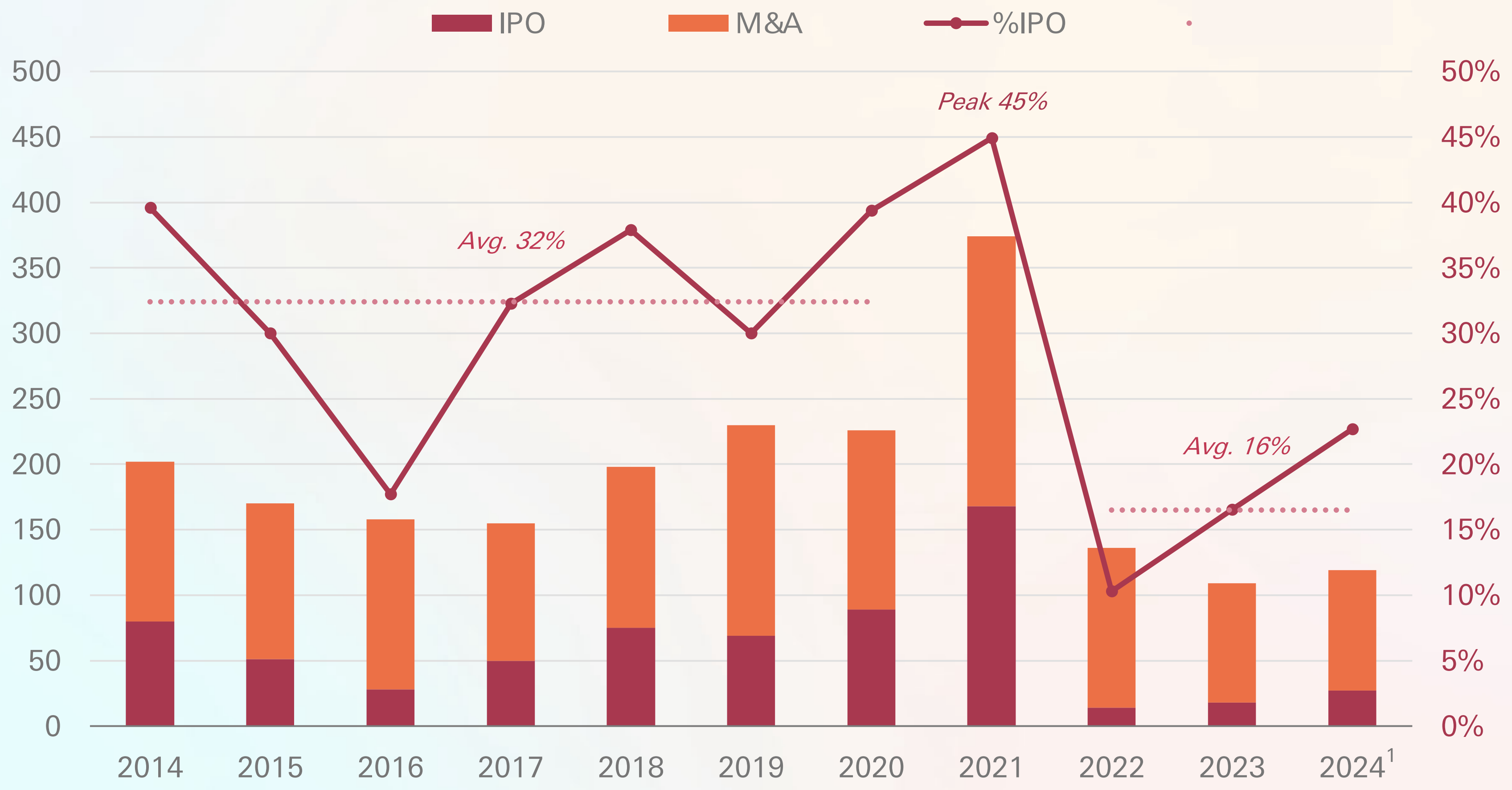
Power Law Dragged Down by Lack of Fund-Returners

Distributions Constrained by Closed IPO Window and Hesitant Large Buyers

- The current constrained exit market reflects the broader shift in market dynamics post-2021 boom. With IPO windows largely closed and M&A activity insufficient to fill the gap, venture capital funds are grappling with diminished IRRs from extended holding periods and risk needing to raise additional capital from LPs based solely on unrealized returns.
- The difficult combination of limited IPO demand and the increased regulatory scrutiny on acquisitions at this fund-returner size, with the recent $100M+ public offering count falling to low double digits while the average share of large exits is at half of the pre-2021 historical average.

$100M+ US VC-Backed Exit Deal Count by Type



Note: 1) 2024 data shown through Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

Emerging Managers Especially Pinched

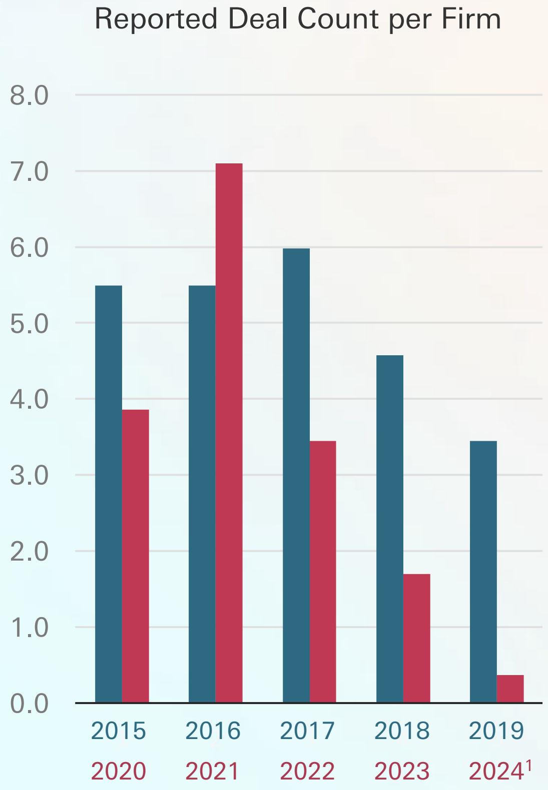
New Funds Starting This Decade Look Radically Different than Those in the Mid-2010s

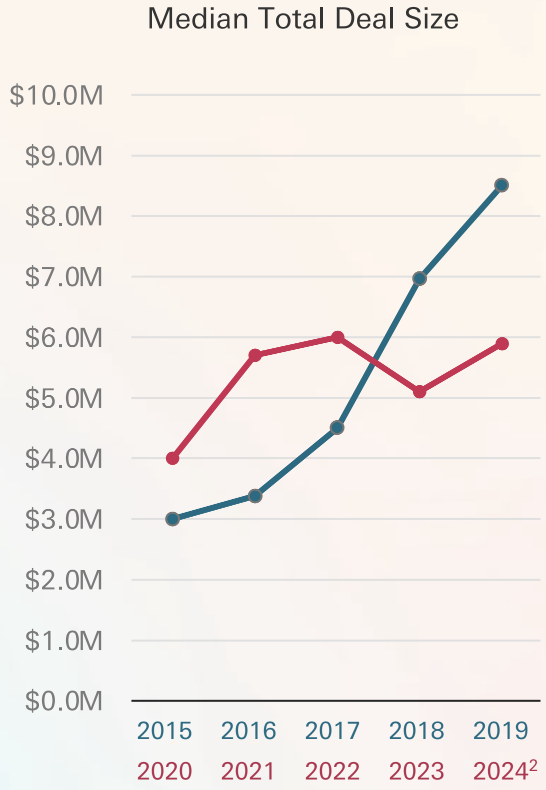
- Deployment of funds by emerging managers (EMs) accelerated during the exuberant market of 2021, deploying faster and larger than prior EMs, limiting timing diversity in their concentrated portfolios.
- Whereas the earlier vintage EM funds were able to participate alongside 2-3x larger rounds as their portfolio companies scaled, subsequent fundings by the 2020 EM cohort have been predominately flat round sizes – often provided as bridge capital.
- Importantly, the sparse exit environment has not generated the liquidity successes required for a next fundraise, as EMs from the latter vintage experienced about half the exit pace five years into their fund life.

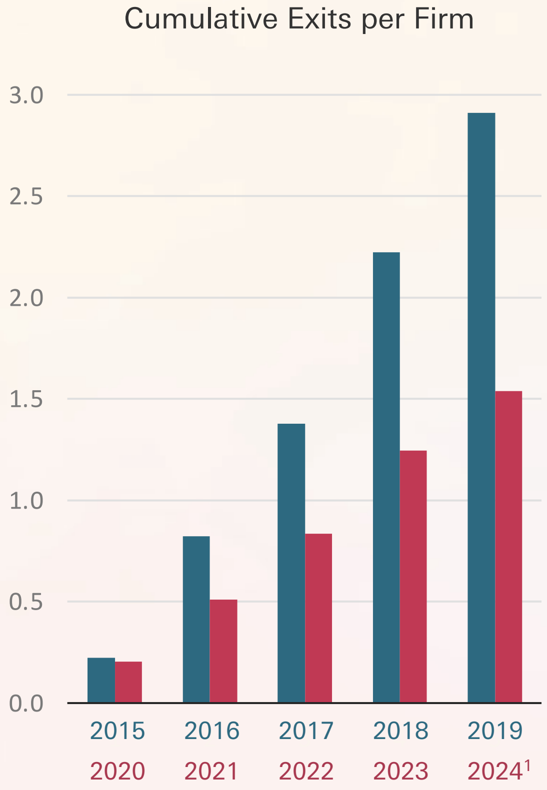
Cohorts of US Venture Capital Emerging Managers' Funds' First Five Years

First-Time $10-100M Funds Raised in 2015

First-Time $10-100M Funds Raised in 2020





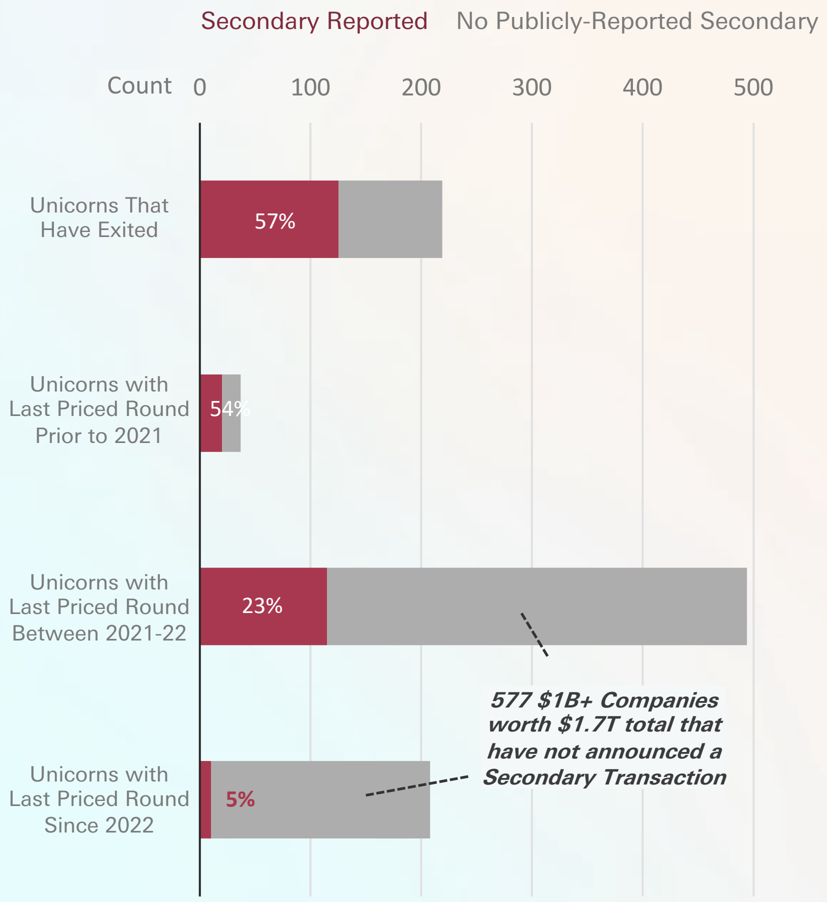


Note: 1) 2024 annualized based on data through Oct. 31, 2024.
2) Based on data as of Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

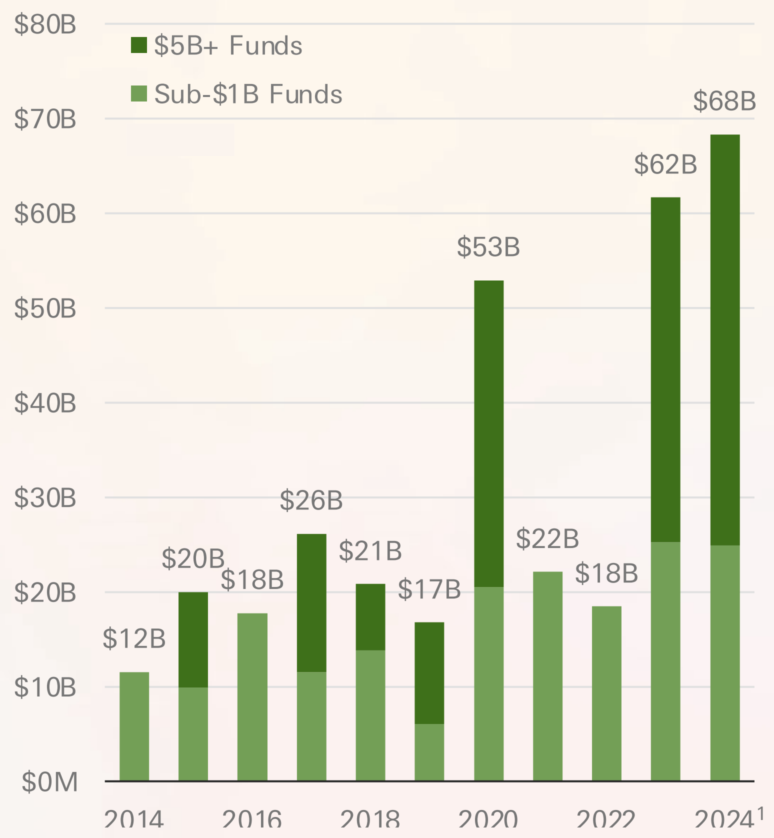
Secondary Transactions & Funds
Supplying the Capital in High Demand by Firms and Funds

- While the vast majority of unicorns took advantage of the fundraising boom of 2021-2022, many of those have not raised subsequently. One-quarter have since announced a secondary transaction of their shares. As liquidity pressure mounts, there is likely an ever-growing opportunity to step in to provide a release.
- In response, a record amount of capital has been raised the last two years by funds targeting secondary transactions. The more than $130B in new funds could represent 5-10% of the $1.7T of estimated value held by employees and venture funds locked in unicorns that have yet to announce a secondary transaction.

US Unicorn Secondary Transactions



US Secondary Funds Capital Raised by Fund Size



Note: 1) 2024 data shown through Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

Investment Thesis Narrows to AI Productivity

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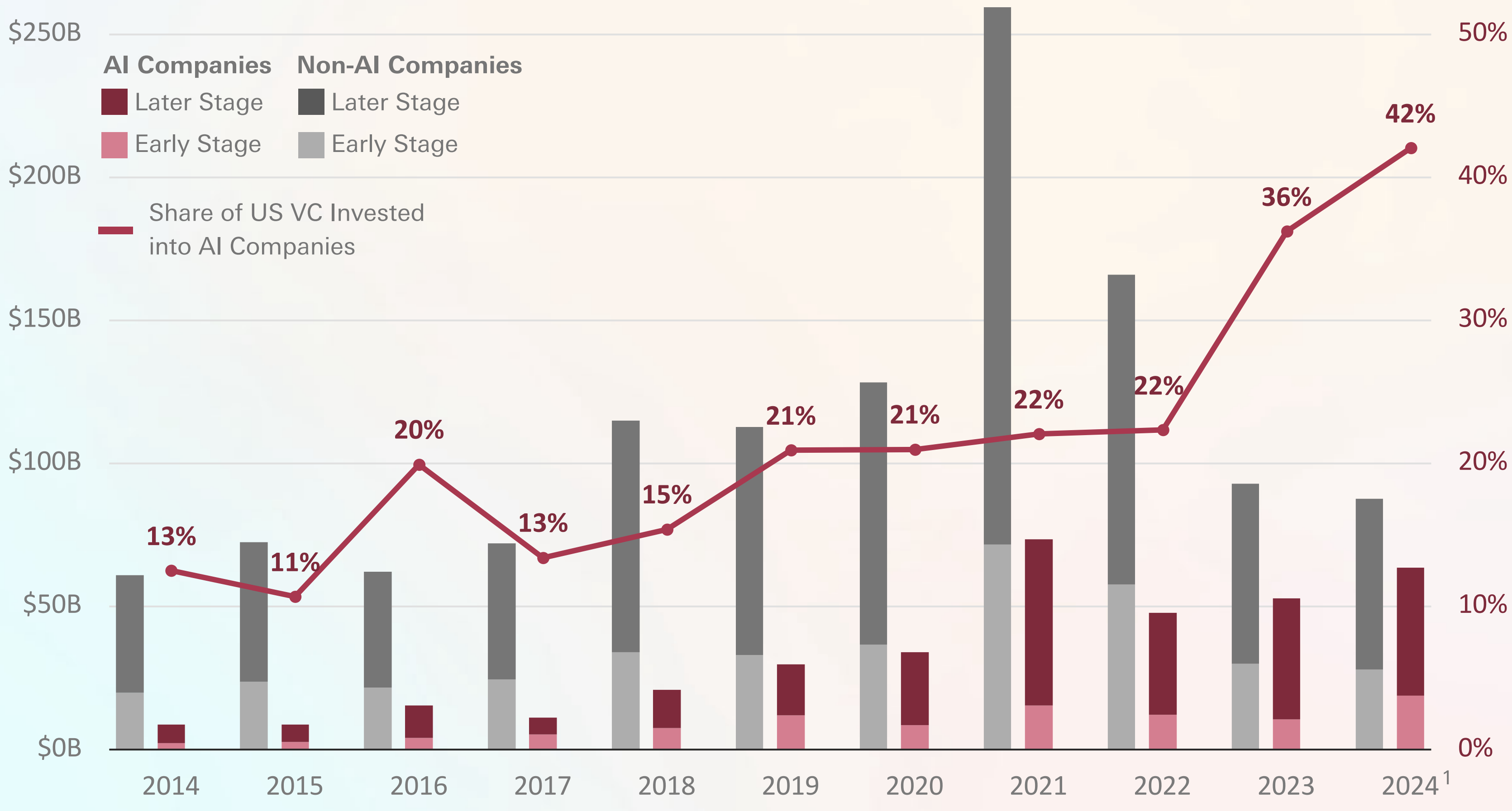
AI is Eating the World (of Venture Capital)

AI Investment Approaching Total Level of Non-AI Investment

- US venture investment in AI Companies is nearing the scale of capital allocated to the rest of the VC market. This trend has accelerated in recent years, with a step-change in 2023, catalyzed by early foundational model breakthroughs, fundamentally shifting investment theses.
- Despite the nascency of the technology, a substantial portion of AI funding is concentrated in a small number of leading firms. As of 2024, twenty AI Companies have each raised $2B or more, underscoring the high-stakes race to invest heavily at the front-end of this next innovation wave.

Companies Leveraging AI vs. Rest of Market: US Venture Funding by Stage

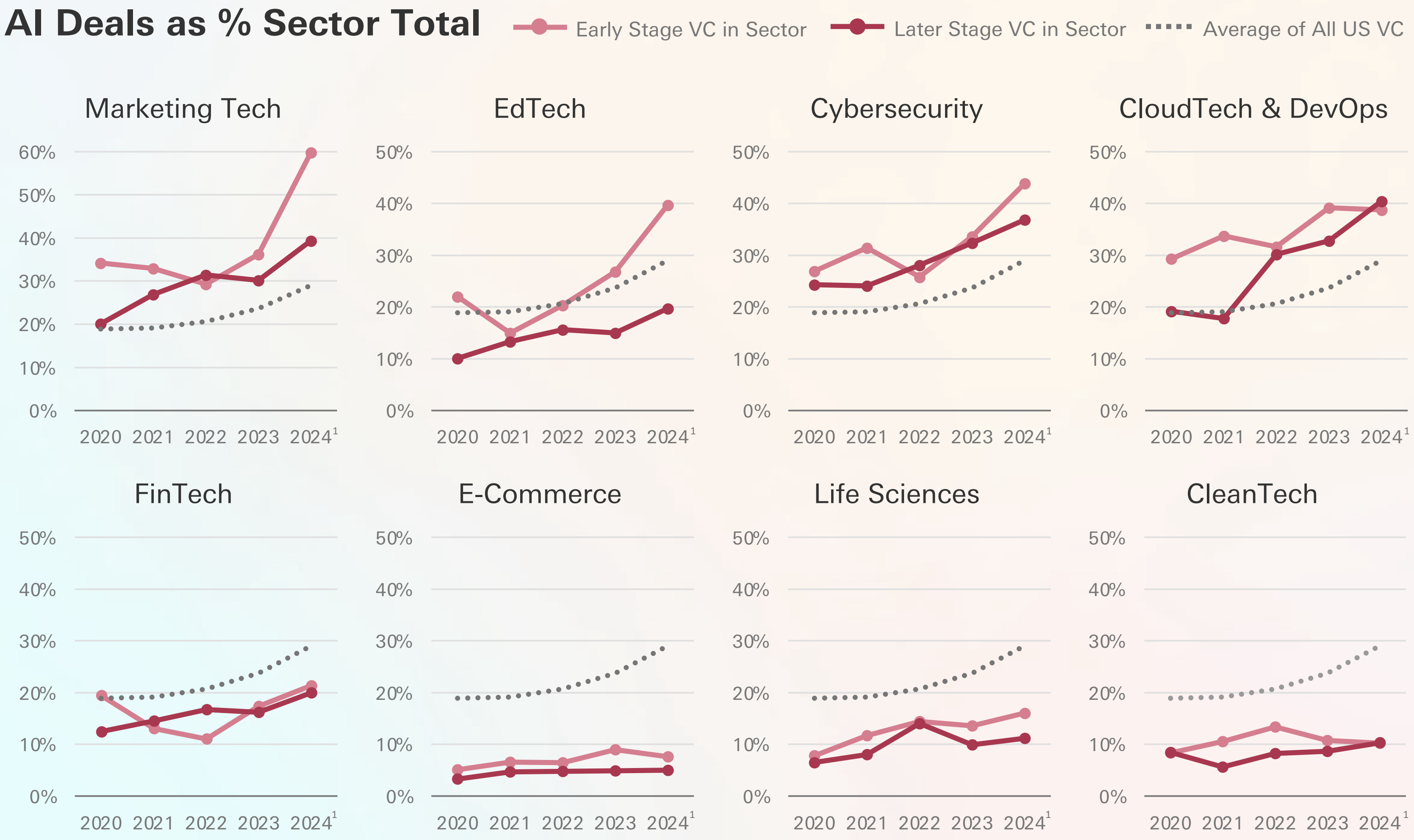


Note: 2024 data shown through Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

AI Adoption Not One-Size-Fits All

Uneven Distribution of AI's Impact Across Technology Verticals

- Sectors with ample unstructured data and limited downside to experimentation (e.g. Marketing Tech, EdTech) have seen relatively rapid climbs for AI startups.
- Verticals with highly structured data (FinTech, E-Commerce) or those with high consequences for inaccuracy (Life Sciences) have seen slower uptake in AI deals.
- Industries with significant data and high impact use cases (Cybersecurity, CloudTech & DevOps) have seen early AI adoption and a higher proportion of the first wave of AI startups maturing into later stage venture investment opportunities.



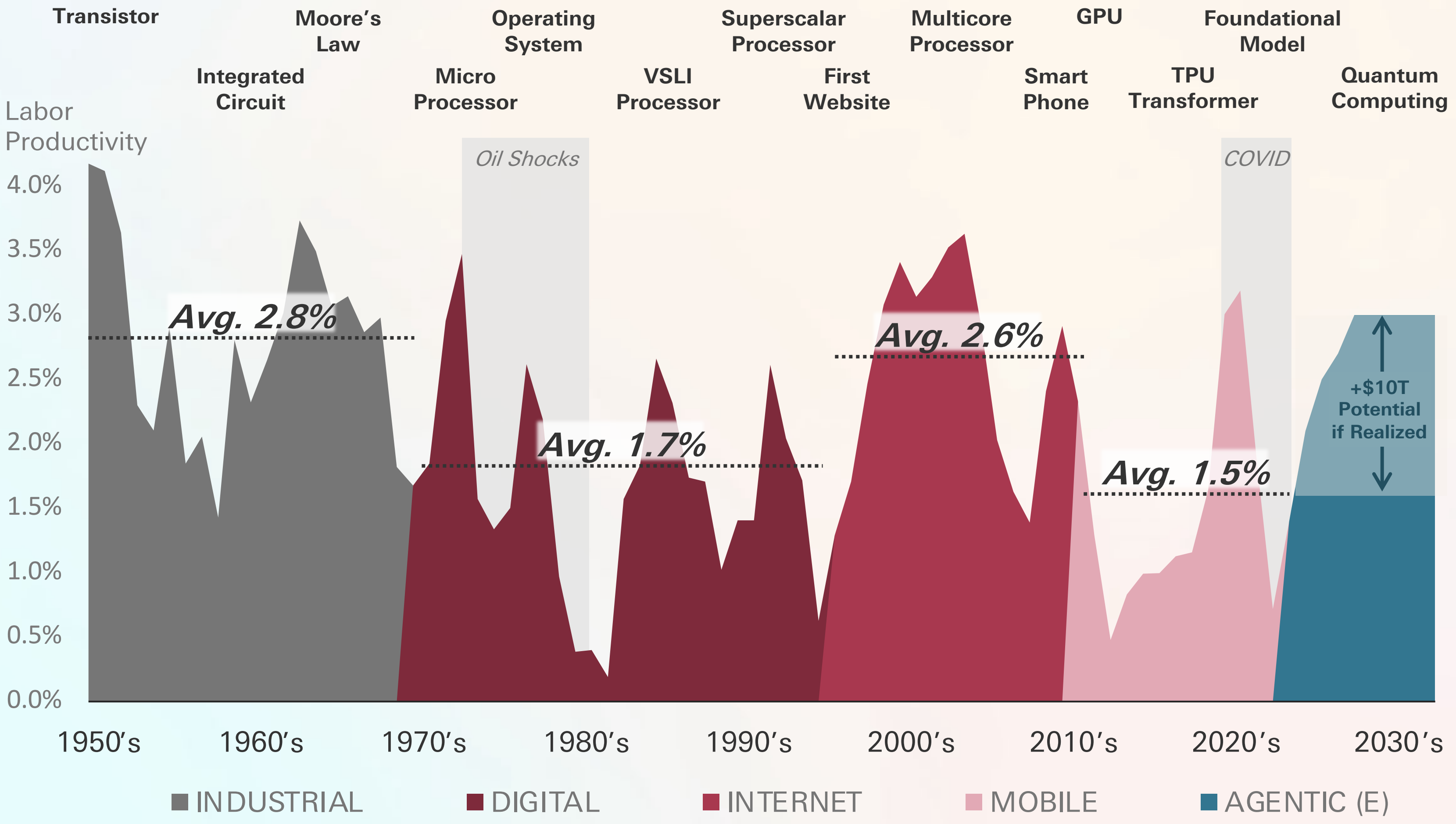
Note: 1) 2024 includes deals through Oct. 31, 2024.
Sources: PitchBook and HSBC Innovation Banking analysis.

Physics Breakthroughs Spur Innovation Supercycles

Advances in Labor Productivity Drives Economic Prosperity

- The waves of innovation that have shaped the global economy for decades, with each transformative advancement driving labor productivity, started with the foundational breakthrough of the Transistor (Bell Labs), which triggered over $100T of direct economic growth. As we exit the Transistor Supercycle, labor productivity gains have dropped precipitously, putting downward pressure on growth and fiscal prosperity
- An AI Supercycle, catalyzed by the invention of the Transformer model (Google), holds the promise of reigniting labor efficiency gains from 2010's lows (1.5%) to historical norms (~2.7%), thus unleashing $10T of add'l GDP growth over the next decade.

Waves of Innovation: Effect on Labor Productivity



Note: 2024 data shown through Sept. 30, 2024.
Sources: Bureau of Labor Statistics (BLS) and HSBC Innovation Banking analysis. Learn more from HSBC Global Research here.

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Our dedicated sector experts possess in-depth knowledge of the technology, life science and healthcare economies.

Ecosystem connections

Established relationships enable us to connect you to new opportunities. We can help you fuel growth through venture capital and corporate investors, industry influencers, customers, and global opportunities.

Dedicated client service team

We move quickly and with assurance, so you can act on decisions and seize the opportunities in a fast-moving market

The right solution, right now

Staying on top of dynamic markets requires a different approach that goes beyond out-of-the-box offerings. We partner with you to anticipate your needs and take fast, flexible action that empowers you to set even more ambitious goals.

Where can you find us?

HSBC Innovation Banking has over 900 innovation-dedicated members on teams across the globe, and have a formal presence across the US, UK, Sweden, Denmark, Israel and Hong Kong.

S&P Outlook: Stable

Issuer Credit Rating Long- and short-term	A/A-1	**Counterparty Rating** Long- and short-term	A+/A-1

Rating Last Review Date: May 2024

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Our deposit and investment solutions can help you put idle funds to work through a range of self-funding, deposit and investment techniques.

Payment Optimization

By providing you with one global online platform HSBC creates efficiency through visibility and control of your cash positions.

Efficiency & Automation

The automation of everyday tasks through efficient and secure digital tools allows you to focus on what is important, your business.

International Solutions

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Capital

We take your business growth needs to customize solutions that fit your challenges.

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