Ted and Logan Webinars on High-Tech Industries

Webinar 4:

Do National Strategies of China and U.S. for High-Tech Industries Make Sense?

Edward A. Snyder and Logan Bender

31 October 2025

7:30am Eastern time – 7:30pm Beijing time

som.yale.edu/hightech

GLOBAL NETWORK FOR ADVANCED MANAGEMENT

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Ted and Logan Webinars on High-Tech Industries

Edward A. Snyder

Ted is the William S. Beinecke Professor of Economics and Management at the Yale School of Management. He has applied IO frameworks to over thirty industries and product markets in the course of his academic and professional career. This set includes liquid crystal displays, video streaming, payment systems, pharmaceuticals, optical disk drives, and modem chips used in smartphones. He studied economics at the University of Chicago. He served as Dean of three business schools and founded the Global Network for Advanced Management.

Logan Bender

Logan is a CFA charter holder and Yale MBA (specialization in asset management). During his career as a global technology investor and research analyst at Putnam and First Analysis, Logan has specialized in high-tech industries including software, internet platforms, and semiconductors, with particular emphasis on the U.S. and China. Logan also has experience with venture investment focusing on series A and B stage investments in vertical SaaS, human capital technology, and other high growth differentiated software businesses.

Thanks for the Positive Feedback from Webinar 3 on the State of the Semiconductor Industry

1. What's driving demand for semiconductors?
2. How does the semiconductor supply chain work (stages, specializations of firms, how firms transact)?
3. Who are the leading firms at each stage?
4. Which firms capture the most value?
5. Why do some firms succeed while others struggle?
6. Do firms with high market shares have "market power"?

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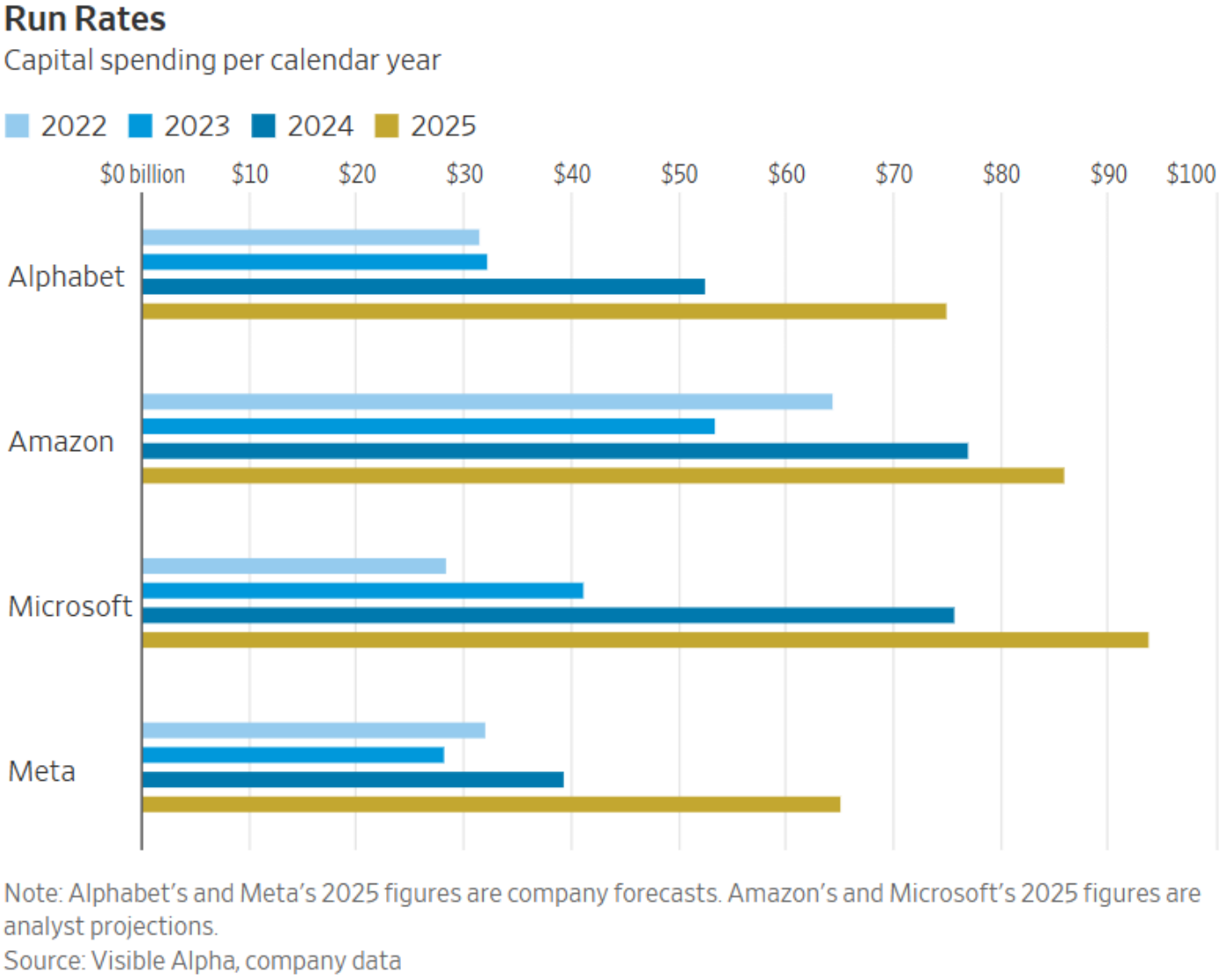
Three of our Six Questions are highly relevant for today's topic:

1. What's driving demand for semiconductors?
2. How does the semiconductor supply chain work (stages, specializations of firms, how firms transact)?
3.
4. Which firms capture the most value?
5.
6.

Update on Semiconductor Industry – CapEx Spending



Note: Alphabet's and Meta's 2025 figures are company forecasts. Amazon's and Microsoft's 2025 figures are analyst projections.
Source: Visible Alpha, company data

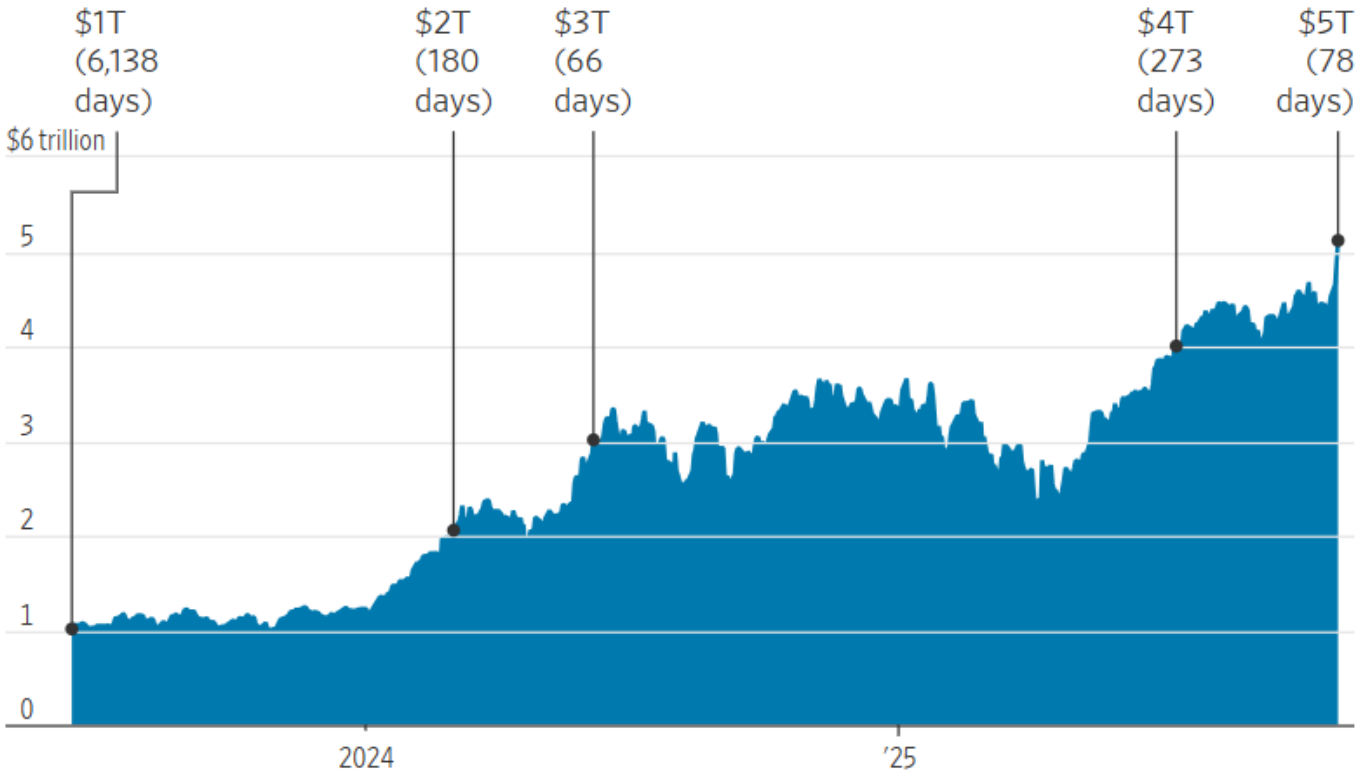
As 2025 nears a close, we have observed an unprecedented amount of CapEx deployed by leading firms – led by data center spend fueling the AI boom, with GPUs being the lynch pin.

Update on Semiconductor Industry

Slow, Then Fast

The number of trading days it took Nvidia to reach successive valuation milestones

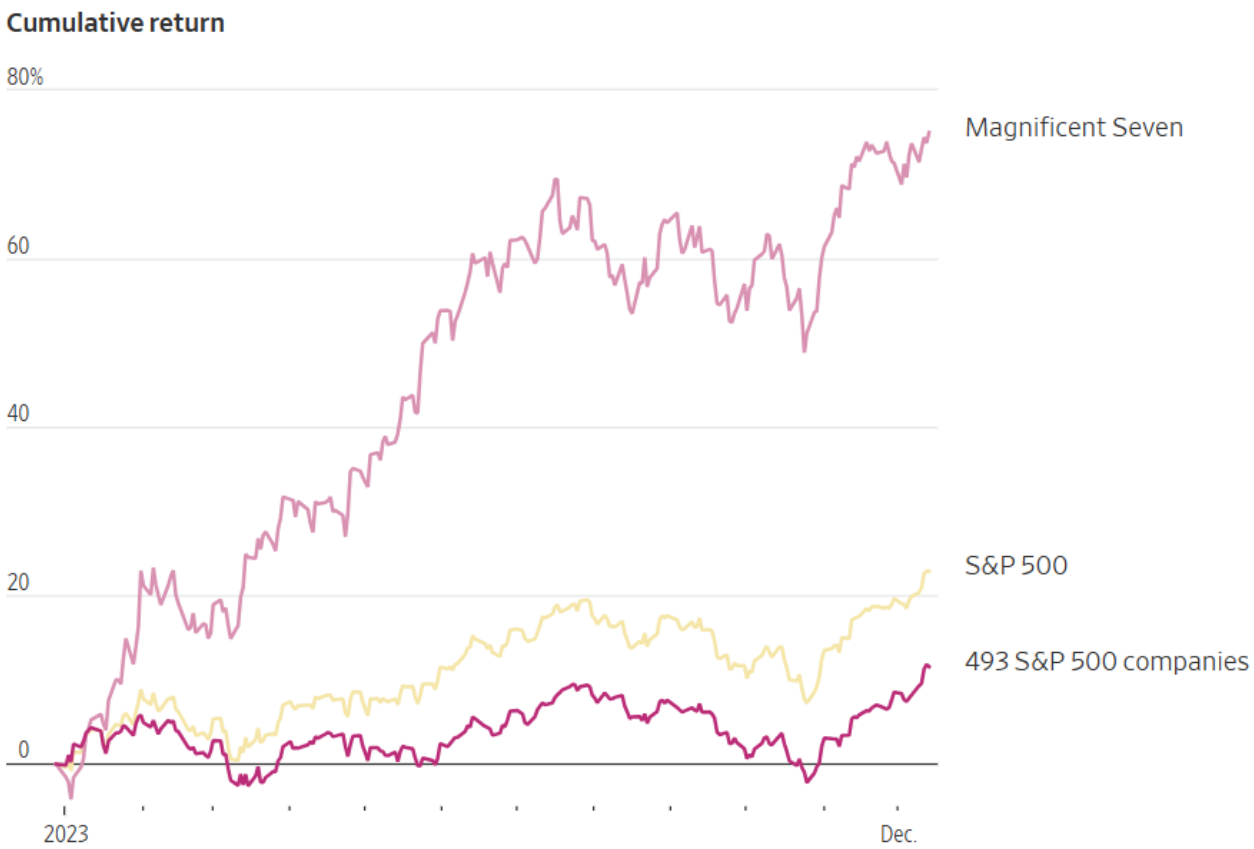
Nvidia's market cap



Note: Most recent data point shows intraday trading on Oct. 29, 2025. Previous data reflects closing levels.
Sources: LSEG, Dow Jones Market Data

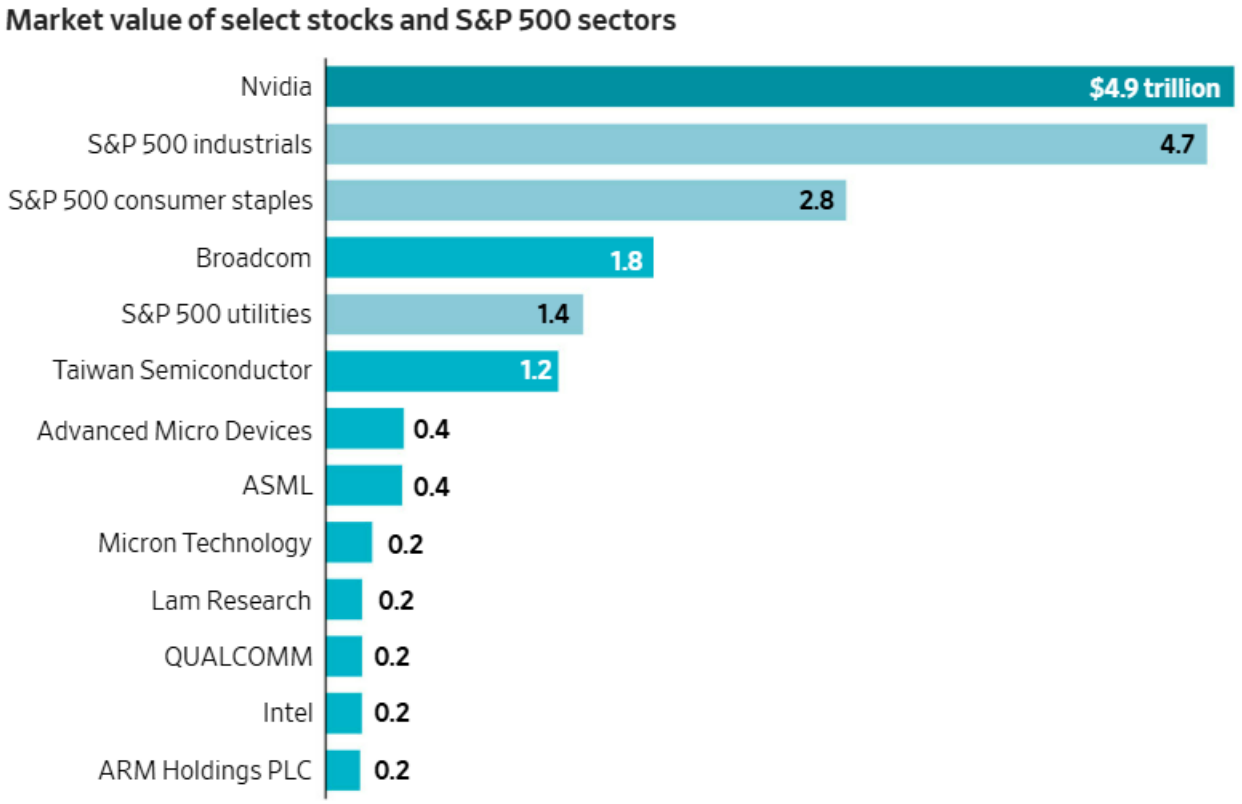
NVIDIA has risen to become the most valuable publicly traded company in the world.

Rise of the Mag 7 versus Rest of S&P 500



Source: Dow Jones Market Data; FactSet

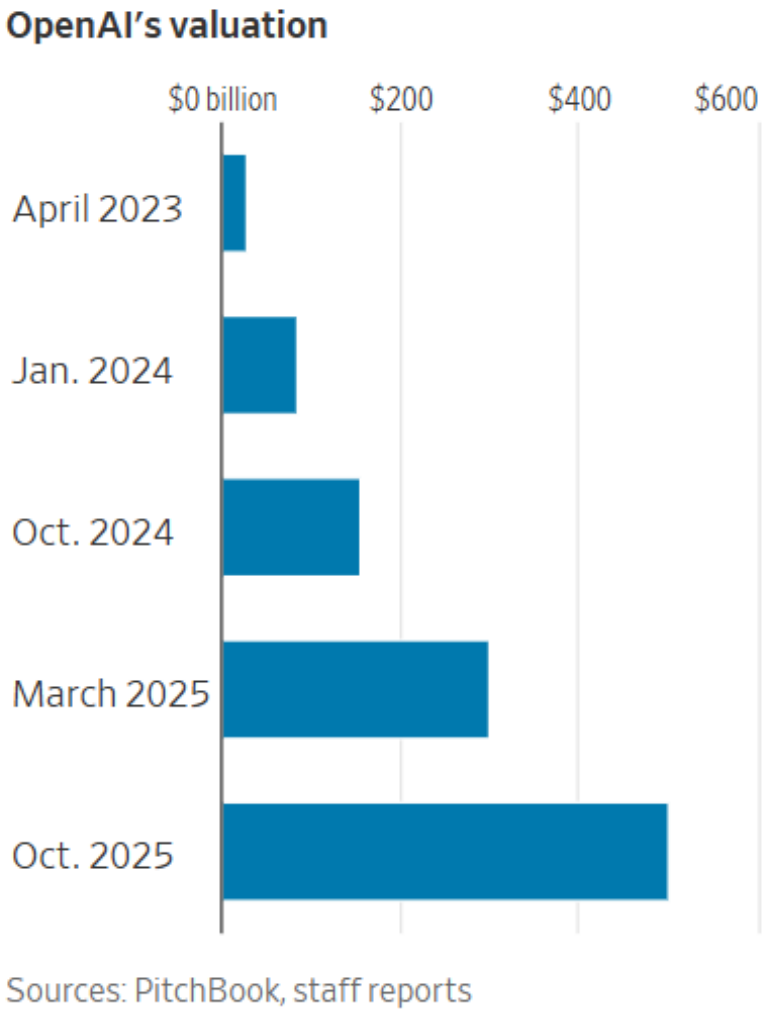
Update on Semiconductor Industry



Note: Stock data is as of midday Wednesday. S&P 500 data is from Tuesday.
Source: FactSet
Rosie Ettenheim/WSJ

Let's put $5T into perspective…

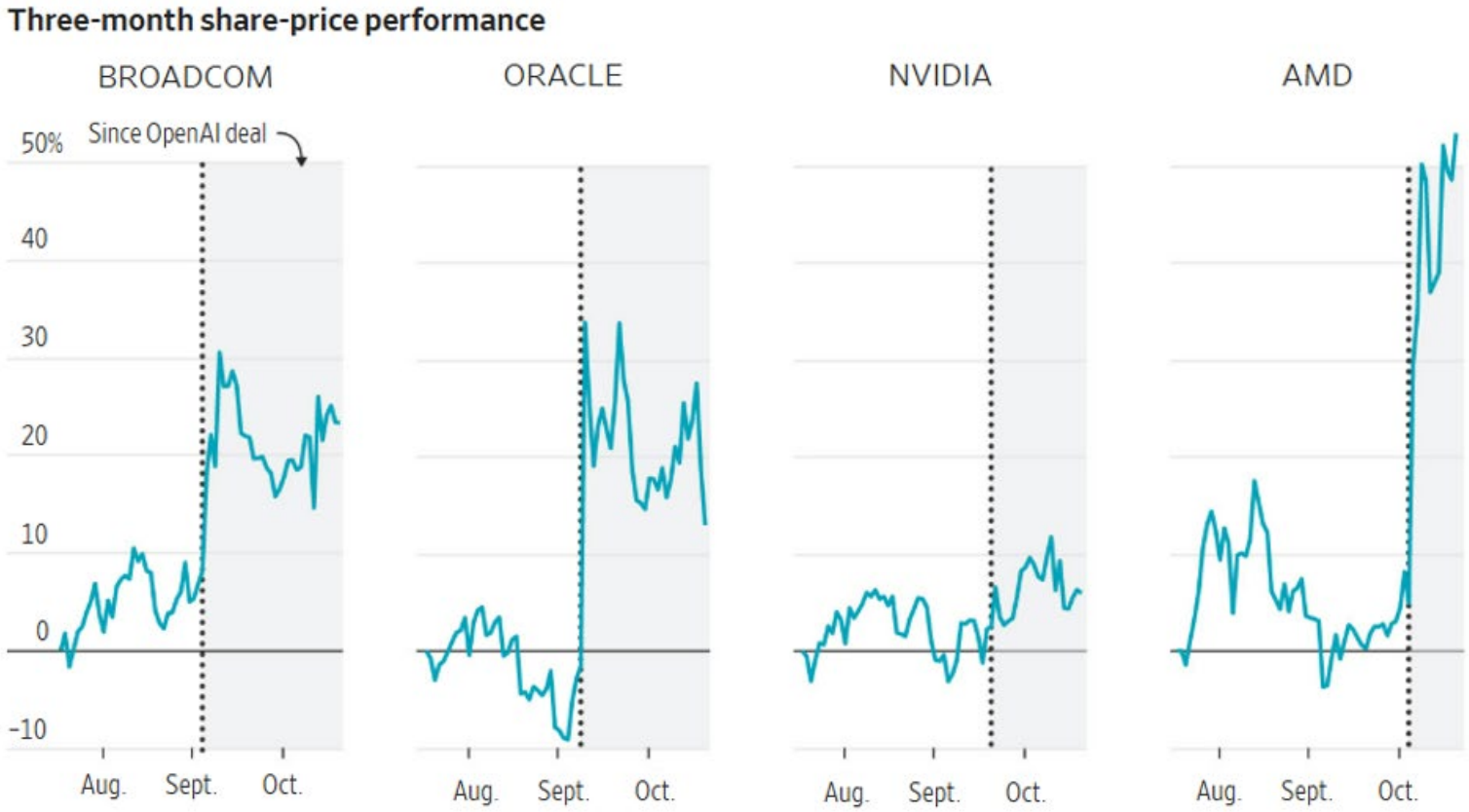
What about the private market?



AI startups secured $193 billion of $367 billion total VC investment in 2025, marking the first time AI-specific investments capture the majority of capital deployment.

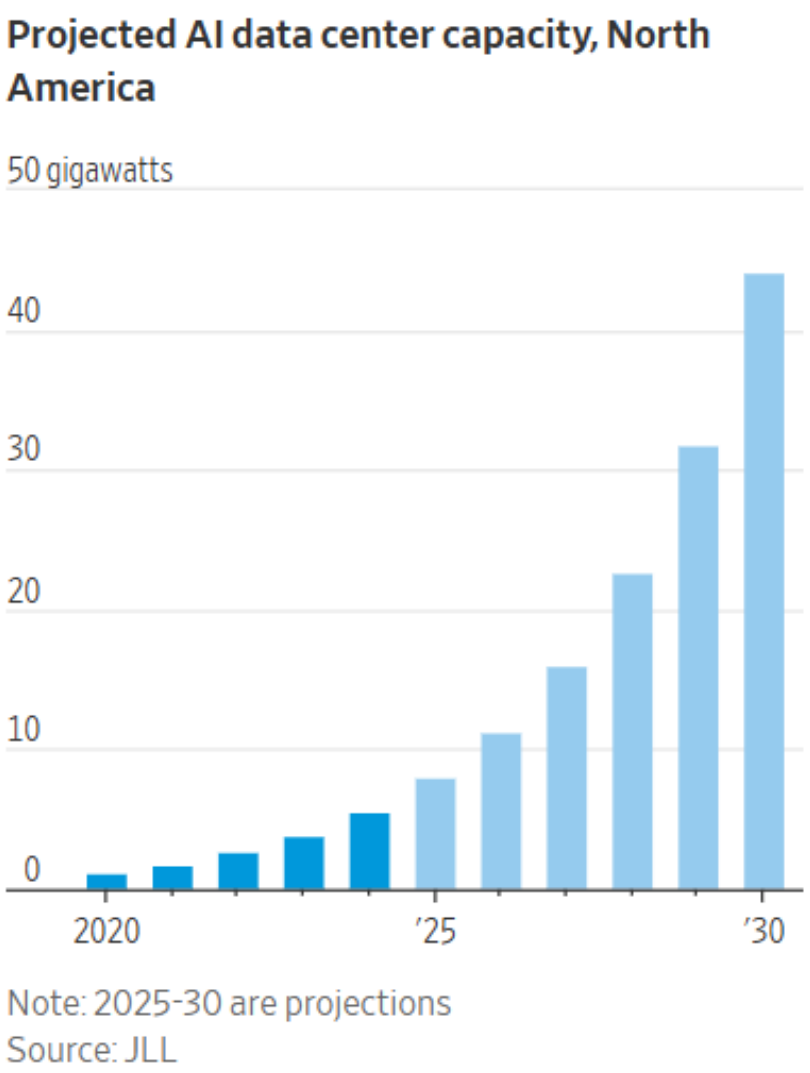
OpenAI has become the most valuable private company in the world.

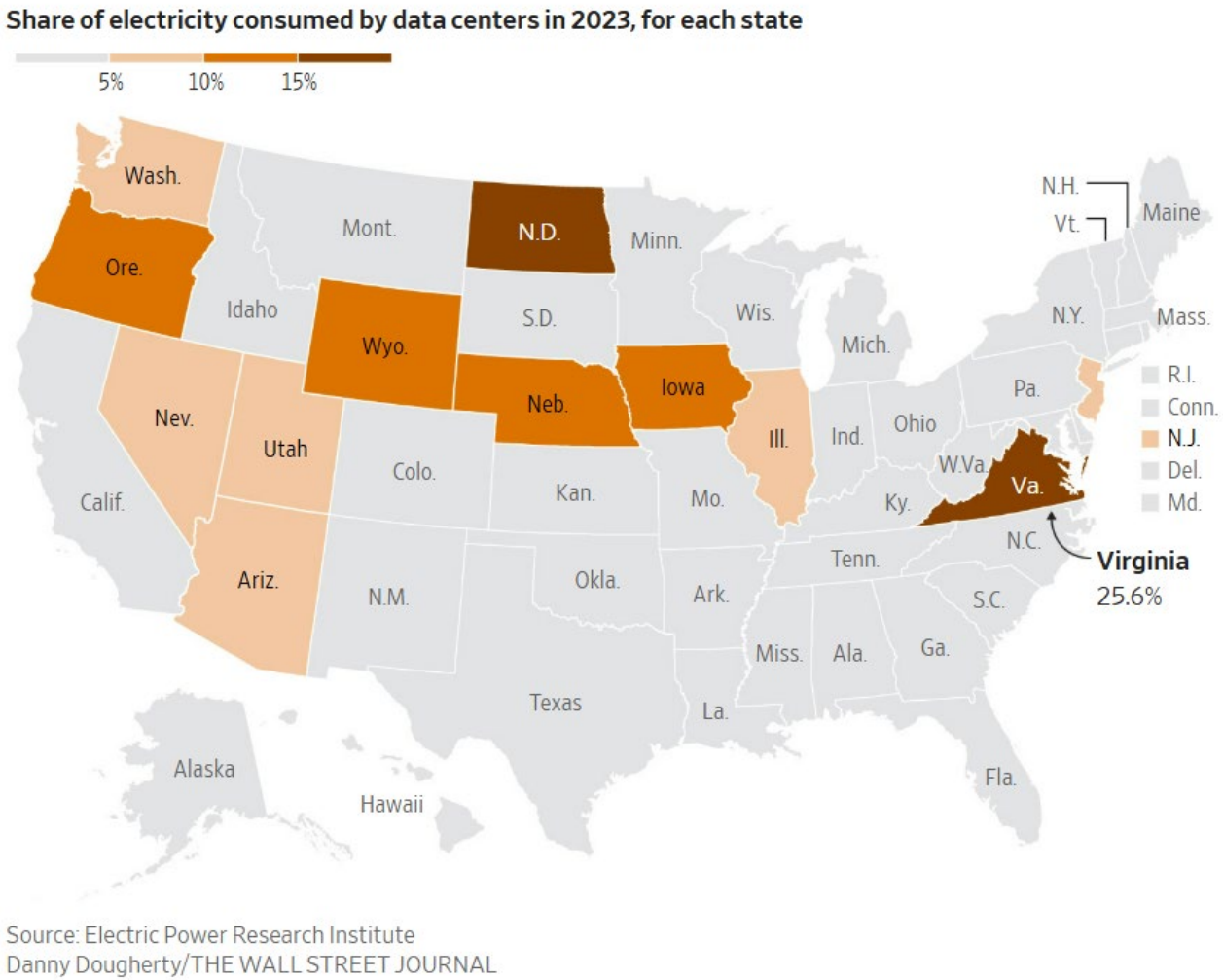
Update on Semiconductor Industry



OpenAI has become a "king maker" – driving valuations among leading tech firms, amassing ~$1.5T of deals in aggregate in the last six months.

Energy Demands Will Shape Policy…





G2 is taking positions

- NVIDIA remains central to the semiconductor narrative
- China and the US each have critical influence over complimentary pillars of the AI ecosystem
    - China is leveraging its scale, talent, infrastructure, manufacturing
    - U.S. is leveraging its leadership in LLMs, high-end semiconductors
- Both are expanding their influence where they can, which will define the direction of both semiconductors and the AI boom

Questions for Today

1. Can China and the US create their own individual supply chains for semiconductors?
2. Will China restrict sales of Rare Earth Elements (REE)?
3. What is missing in the analyses of individual strategies?

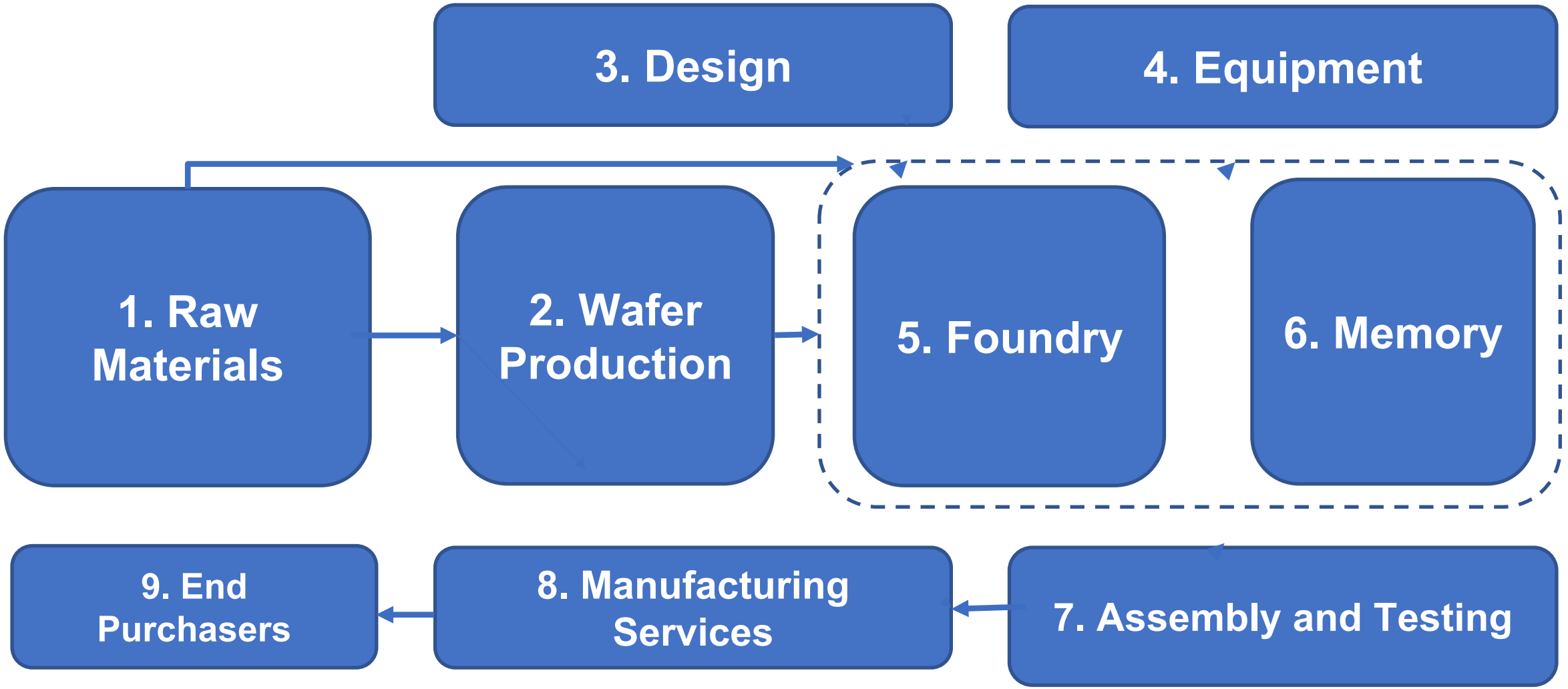
1. Can China and the U.S. create supply chains for semiconductors that they control?

1. U.S. policy started with the CHIPS Act of 2022
2. U.S. government has taken stakes in high-tech companies, encouraged companies to manufacture in the U.S. (e.g. TSMC, Samsung)

3. China has emphasized technological self-reliance for years
4. Self-reliance included in the draft 15th Five-Year Plan released Tuesday
5. VC-style investments (e.g. The National Integrated Circuit Industry Investment Fund (NICIIF))

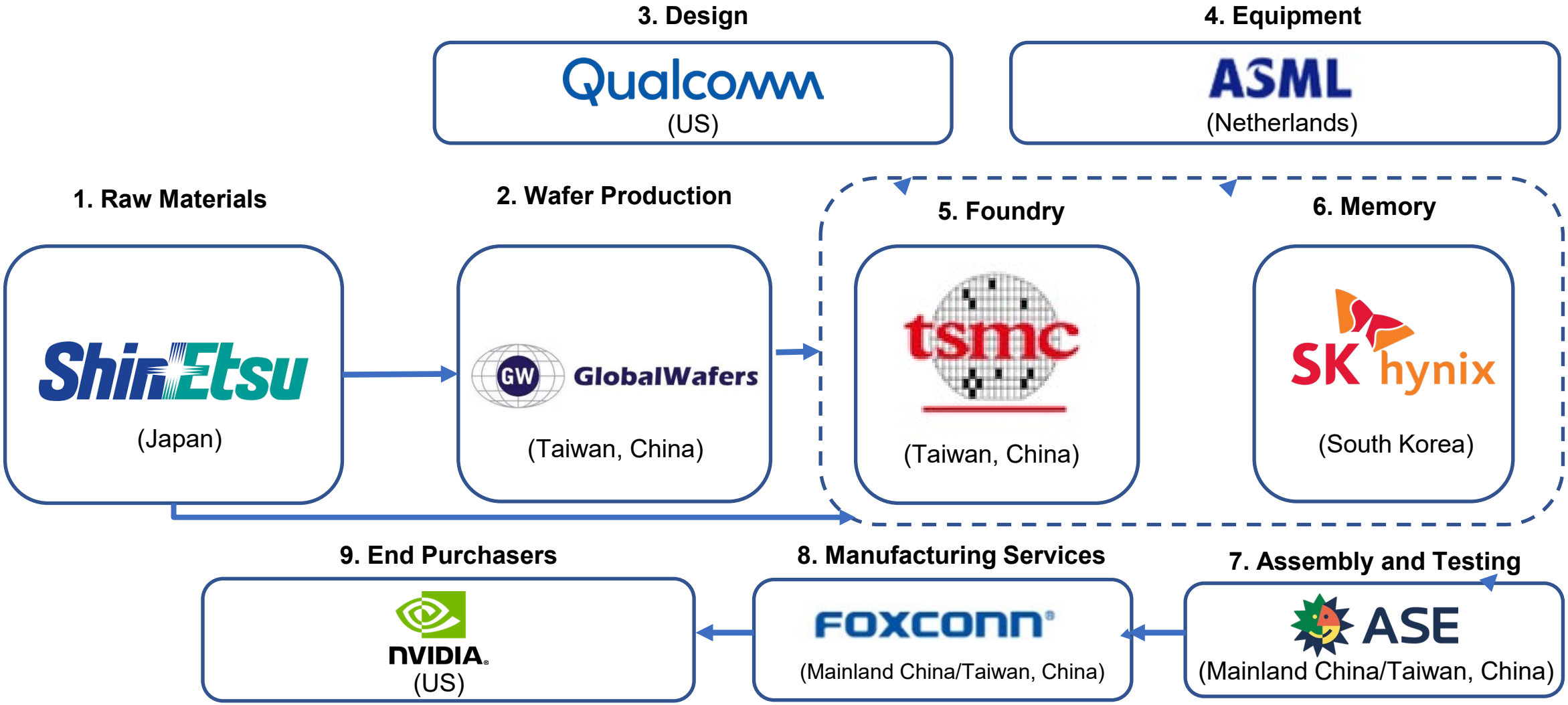
Source: https://merics.org/en/comment/chinas-long-term-struggle-become-integral-semiconductor-supply-chains, https://www.scmp.com/economy/china-economy/article/3330667/china-sets-technological-self-reliance-key-goal-next-5-years.

Semiconductors – Nine Stages of Production



Source: Webinar 3.

Leading Firms at Each Stage



Source: Webinar 3.

2. Will China restrict sales of Rare Earth Elements (REE)?

- China accounts for 70% of global mined production and 87% of global refined production.

  These are distinct activities. Neither matches to % of reserves!

- The United States was a REE supplier until China's rise in the mid-1990s.
- Many countries possess rare earth reserves and resources but producing these metals involves complex separation and refining processes.
- China embarked on course to increase its role over last 5 decades.

Source: https://www.china-briefing.com/news/chinas-rare-earth-export-controls-impacts-on-businesses/, https://www.mofcom.gov.cn/zwgk/zcfb/art/2025/art_59ec4f6bec0b459aa4a30c4bbd0a41c1.html.

2. Will China restrict sales of Rare Earth Elements (REE)?

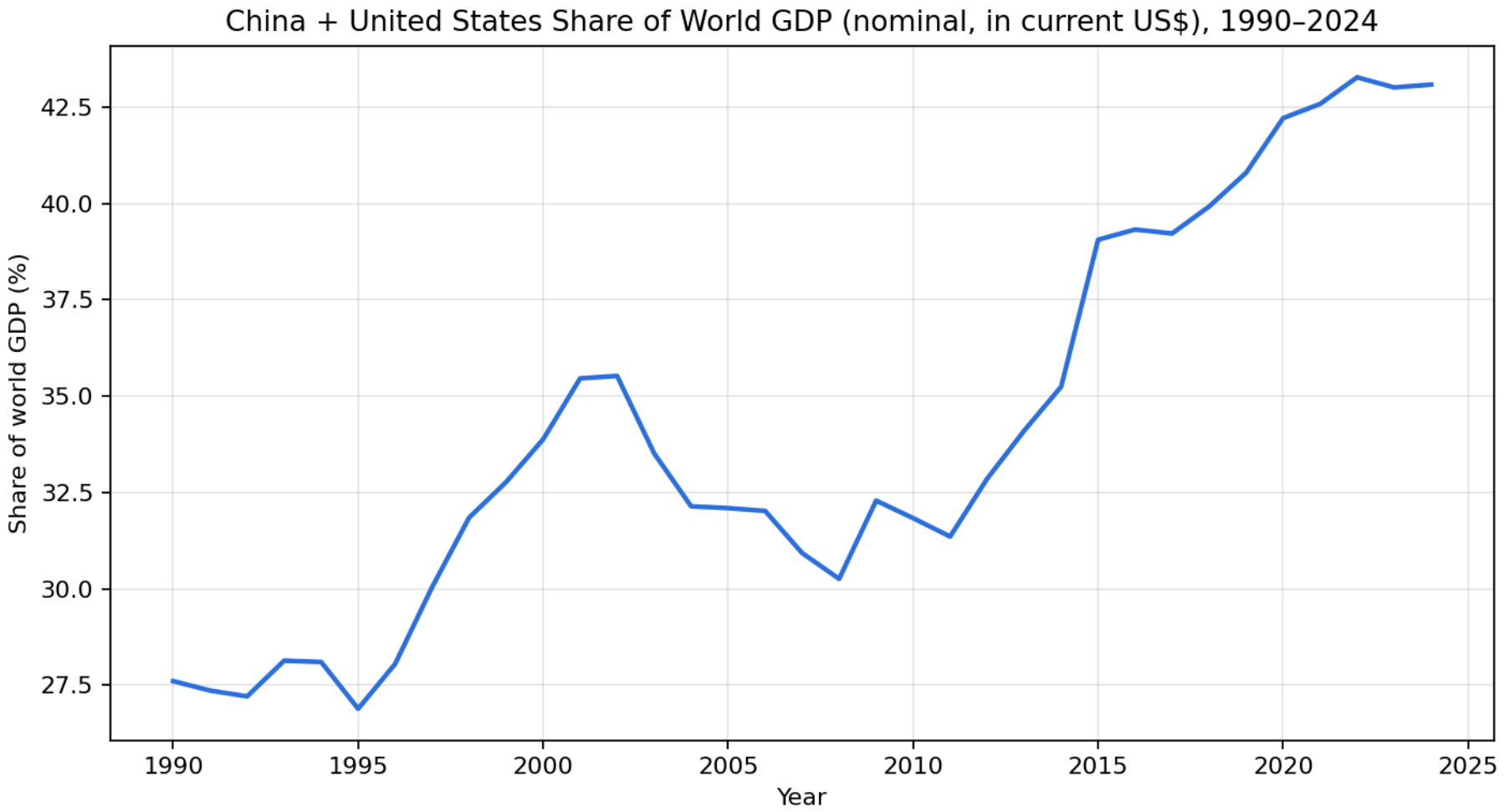
- Companies would need to obtain **export licenses** for products made outside China if they "contain Chinese-origin materials" or are "produced using Chinese technologies" (extraterritorial application)
- Had been scheduled to go into effect on November 8
- Xi-Trump meeting this week resulted in a one-year delay

Source: https://www.china-briefing.com/news/chinas-rare-earth-export-controls-impacts-on-businesses/, https://www.mofcom.gov.cn/zwgk/zcfb/art/2025/art_59ec4f6bec0b459aa4a30c4bbd0a41c1.html.

3. What is missing in the analyses of individual strategies?

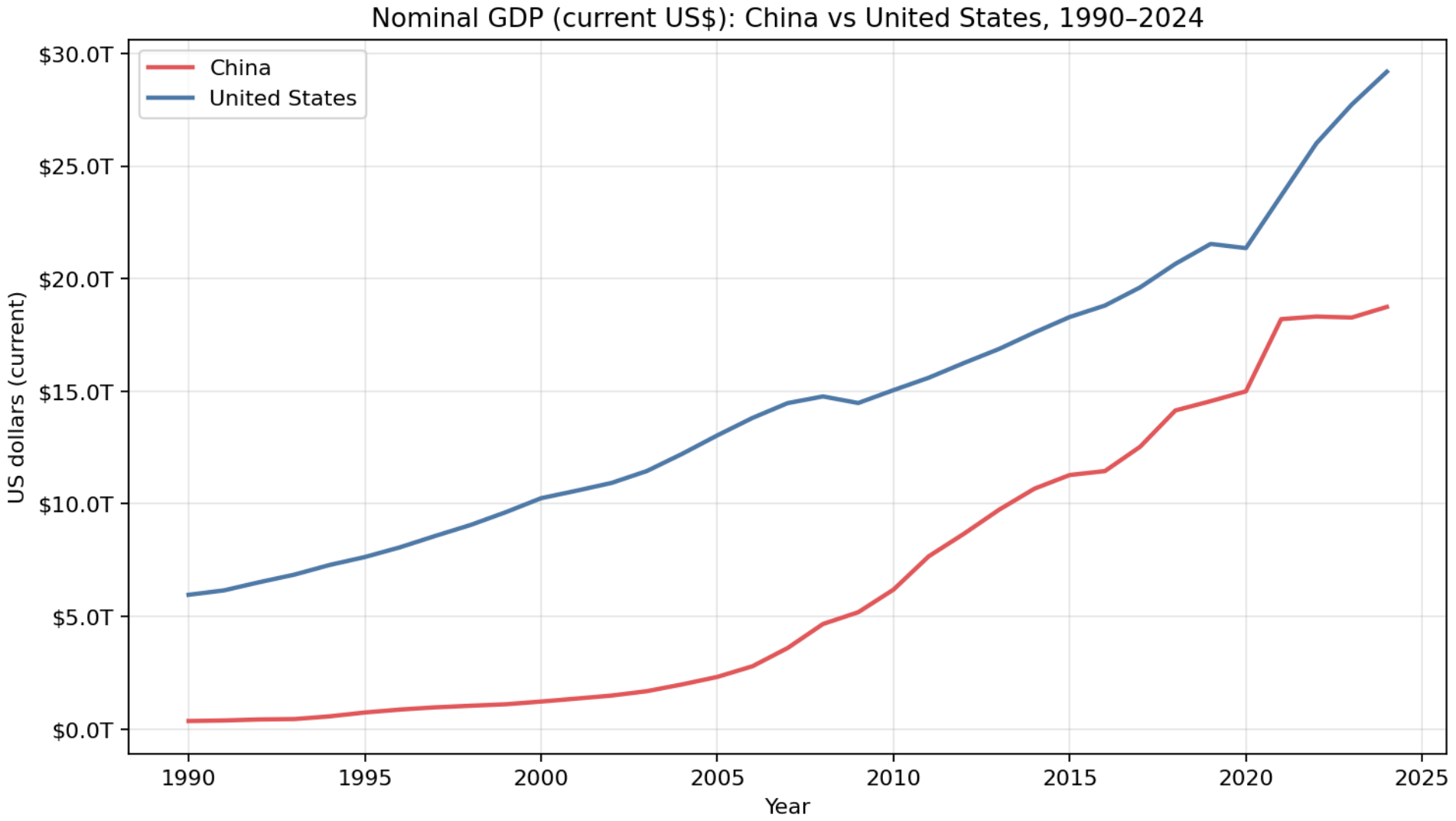
- "The contest with China is structural — a rivalry between two great powers bound by *mutual dependence*." (Fareed Zakaria)
- "The contest with China is structural — a rivalry between two great powers who are in *a mutually beneficial economic relationship*." (Ted Snyder)

The G2



Source: World Bank Data.

The G2



Source: World Bank Data.

What objectives does China have?

1. To leverage its manufacturing prowess;
2. To gain leadership in AI;
3. To maximize its influence globally;
4. To gain greater control over the semiconductor supply chain.

What objectives does the U.S. have?

1. To remain viable in manufacturing;
2. To continue and grow its leadership in AI;
3. To retain its influence globally, and counter China's influence;
4. To gain greater control over the semiconductor supply chain.

What's the missing objective?

Continue to realize the benefits
of this historically successful G2.

Insights and conclusions

1. We should not expect two independent supply chains for semiconductors.
2. We do not expect China to restrict Rare Earth Elements (REE).
3. China-U.S. economic relationship has greatly benefitted both sides.
4. We'd expect continued benefits from cooperation regarding semiconductors. Why divorce?

   We're not surprised by the one-year truce.
5. **AI may be changing the stakes.**

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- Visit som.yale.edu/hightech for Recordings, Slides, Additional Readings (Briefs)
- Please join our LinkedIn group:
  https://www.linkedin.com/groups/14626769/
- Thanks to Yale Center Beijing, Global Network for Advanced Management, Yale SOM Alumni Office, 960 Alumni, and Yale SOM IT

Appendix

Update on Semiconductor Industry