

# When Financing Feeds the Product: How Circular Capital Could Undercut the AI Build-Out

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## Abstract

The current boom in artificial intelligence (AI) investment increasingly involves circular financing arrangements, where suppliers, particularly chipmakers, and hyperscalers enter equity and financing agreements that effectively fund customers' purchases of the suppliers' own hardware. While these arrangements amplify sales and valuations in the short term, they create systemic risks. If the underlying economic rationale for these purchases, real monetization, lags behind financed demand, revenues and valuations may experience sharp corrections when financing conditions tighten, or monetization underperforms. This paper explores recent examples of circular financing, analyzes its impact on vendor revenue and valuation, highlights failure mechanisms, and quantifies the disparity between AI capital expenditures (CapEx) and monetization to date. The implications for investors and policymakers are discussed with recommendations for disclosure, stress testing, and regulatory scrutiny.

## 1. Introduction

The AI build-out is accompanied by unprecedented capital commitments, particularly in hardware infrastructure like GPUs and data centers. However, a growing portion of these investments is fueled by circular financing, where vendors provide or facilitate capital that flows back to themselves through hardware sales. Recent strategic equity deals and financing arrangements between chipmakers (e.g., NVIDIA, AMD) and AI firms or hyperscalers exemplify this trend (NVIDIA, 2025; Reuters, 2025). This paper investigates how such circular capital inflows can inflate short-term vendor revenue and valuations beyond what organic monetization supports, thereby creating a fragile financial ecosystem vulnerable to abrupt repricing. By quantifying the ratio of visible AI monetization to CapEx and examining mechanisms by which circular financing can unravel, this analysis provides critical insights for investors and regulators navigating the AI investment landscape.

## 2. Defining Circular Financing: Concrete 2025 Examples

Circular financing occurs when vendor capital is channeled to customers in ways that ultimately return to the vendor as product purchases, creating a feedback loop. Several recent high-profile transactions illustrate this dynamic:

- **NVIDIA's Equity Investment in Intel (September 2025):** NVIDIA's approximately \$5 billion strategic equity investment in Intel, along with a roadmap for joint x86+GPU product development, aligns supplier, platform maker, and OEM interests through intertwined

capital and product commitments (NVIDIA, 2025; TrendForce/Reuters, 2025). This deal ties NVIDIA's capital to Intel's future product purchases, embedding financial exposure and mutual dependence.

- **NVIDIA Financing AI Customer Builds:** Reports indicate NVIDIA has provided equity stakes or chip financing to AI companies such as xAI, where funding rounds include structured allocations for purchasing NVIDIA GPUs, effectively cycling vendor capital through buyer balance sheets back to NVIDIA hardware sales (Reuters, 2025).
- **AMD and OpenAI Supply and Equity Optionality (October 2025):** AMD's multi-year AI supply agreement with OpenAI includes stock options allowing OpenAI to acquire equity stakes, blending hardware supply with financial upside. Such structures incentivize large hardware commitments while vendors accept equity or financing concessions in lieu of upfront cash (Reuters, 2025).
- **Historical Analogues and Cautionary Notes:** Analysts have drawn parallels to past vendor-financing models, such as captive financing arms, which historically have inflated sales figures by partially financing customer purchases. Goldman Sachs and other commentators warn that when suppliers both finance and sell products, reported sales may reflect circular capital flows rather than purely organic demand (Goldman Sachs, 2025; The Times of India, 2025).

These cases exemplify how vendor capital facilitates buyer commitments that disproportionately enhance the vendor's hardware volumes, raising questions about revenue quality and sustainability.

### **3. The Revenue and Valuation Inflation Mechanism**

#### **3.1 Financed versus Organic Sales**

When vendors provide equity stakes, loans, or chip-prepay financing to customers, reported revenues increasingly reflect financed demand rather than genuine end-user monetization. Accounting standards recognize product shipments as revenue regardless of financing origin, leading investors to potentially overestimate organic growth (Goldman Sachs, 2025). This raises the risk that vendor earnings are partially dependent on capital injections rather than sustainable market demand.

#### **3.2 Short-Term Gains, Long-Term Risks**

Vendor financing accelerates sales volumes and short-term margins but concentrates credit and counterparty risk on the vendor. Should buyer monetization disappoint or buyer liquidity falter? Vendors face rapid revenue reversals via chargebacks, cancellations, or impaired receivables. This risk is amplified in concentrated markets where a few vendors finance a limited number of hyperscalers or AI labs, heightening vulnerability to regulatory or geopolitical shocks such as export controls or capital-market repricing (Reuters, 2025; Goldman Sachs, 2025).

#### 4. Failure Modes of Circular Financing

The circular financing model is susceptible to multiple failure mechanisms:

- **Liquidity Runs on Financed Customers:** AI labs relying on vendor capital may encounter margin calls or credit events forcing asset sales or purchase cancellations, leaving vendors with excess inventory or bad debts.
- **Regulatory and Geopolitical Shocks:** Export restrictions or licensing delays can disrupt hardware delivery or usage, breaking the financing-purchase cycle (Reuters, 2025).
- **Revenue Reclassification Risk:** Structured financing with rebates, returns, or special-purpose vehicles may lead to forensic accounting reviews reclassifying earlier revenues as non-recurring or at risk, triggering earnings adjustments and valuation shocks (The Times of India, 2025).
- **Balance Sheet Risks for Vendors:** Vendors accepting equity or loans in customers carry increased financial risk. If monetization fails to materialize as expected, vendors bear downside exposure with limited recourse.

#### 5. AI Capital Expenditures versus Monetization: Quantifying the Mismatch

The systemic risk escalates when comparing vast AI infrastructure investments to currently visible monetization. Estimates place hyperscaler and AI infrastructure CapEx at roughly \$325 billion in 2025, based on aggregated public commitments from major players such as Meta, Oracle, and OpenAI (Guardian, 2025; Business Insider, 2025). In contrast, visible monetization remains limited. NVIDIA's fiscal 2025 revenue, largely driven by AI data center GPU sales, was approximately \$130.5 billion (NVIDIA, 2025). OpenAI's estimated 2025 run-rate revenue is around \$12 billion (PYMNTS, 2025). Combined, these suggest visible AI monetization of about \$142.5 billion annually.

Using the following formula,

$$\text{Monetization-to-CapEx Ratio} = \frac{\text{Visible Monetization}}{\text{AI CapEx}}$$

This yields a monetization-to-CapEx ratio of roughly 0.44, meaning less than half of the invested capital translates into currently realized revenue. This conservative ratio excludes monetization embedded in cloud operator revenues (Azure, AWS, Google Cloud), which are difficult to parse as pure AI income but nonetheless underlines a significant capital-monetization gap (Business Insider, 2025).

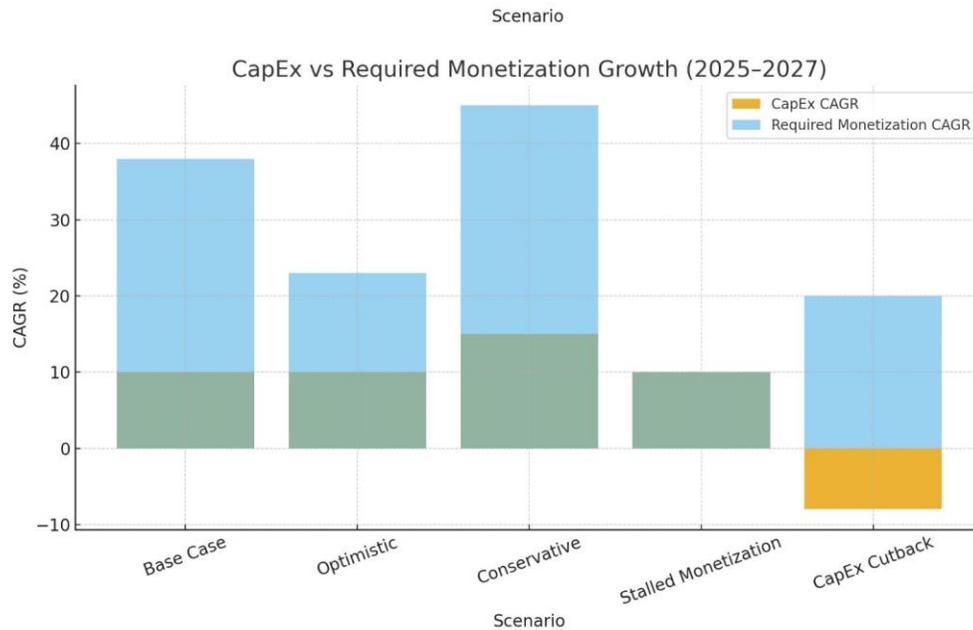
## 5.1 Monetization Growth Requirements for Sustainability

To achieve a sustainable 1:1 monetization-to-CapEx parity by 2027, AI revenues must grow annually by approximately 35–40%, outpacing CapEx growth projected at 10–15% per year (Reuters, 2025). Failure to meet this growth trajectory risks an “AI digestion period,” analogous to the telecom infrastructure overbuild of the early 2000s, which could trigger CapEx slowdowns and valuation corrections (Business Insider, 2025).

## 5.2 Valuation Sensitivity Overview

To better understand the scale of growth required for AI monetization to keep pace with infrastructure investments, Figure 1 and Table 1 present several scenarios projecting AI capital expenditures, monetization levels, and the corresponding compound annual growth rates (CAGR) needed through 2027 to achieve a sustainable monetization-to-CapEx ratio of 1:1. The base case scenario illustrates that AI revenues must grow nearly 38% annually—significantly outpacing the projected 10% CapEx growth—to bridge the current gap. More optimistic scenarios assume faster monetization growth or slower CapEx increases, while conservative and stalled monetization scenarios highlight the risks of overinvestment and potential valuation pressures. This analysis underscores the challenging trajectory AI monetization faces to validate today’s massive capital commitments.

**Figure 1.**  
**CapEx and Required Monetization CAGR (2025–2027)**



**Table 1***AI Monetization vs. CapEx Efficiency Outlook (2025–2027)*

Scenario	2025 AI CapEx (\$B)	2025 Monetization (\$B)	CapEx CAGR ('25–'27)	Required Monetization CAGR ('25–'27)	Monetization/CapEx Ratio (2027)	Commentary
Base Case	325	142.5	10%	38%	1.0×	Monetization must nearly triple, dependent on enterprise AI adoption
Optimistic	325	200	10%	23%	1.0×	Achievable if AI adoption accelerates and cloud margins hold
Conservative	325	142.5	15%	45%	1.0×	Requires extraordinary revenue growth; risk of overbuild
Stalled Monetization	325	142.5	10%	10%	0.55×	CapEx outpaces returns, leading to valuation compression
CapEx Cutback	275	142.5	-8%	20%	1.1×	Efficiency improves via slower CapEx normalization

Note. CAGR = compound annual growth rate. Monetization/CapEx ratio refers to the projected ratio of AI monetization revenue to capital expenditures in 2027.

## 6. Implications for Investors and Policymakers

### 6.1 Investor Considerations

- **Short-term:** Vendors like NVIDIA, AMD, and Broadcom benefit from near-term hardware demand and pricing strength.
- **Medium-term:** Hyperscaler return on invested capital (ROIC) may compress until AI software monetization scales sufficiently.
- **Long-term:** Investors should favor AI service-layer firms with recurring revenue models (e.g., API, SaaS) over firms reliant on hardware CapEx cycles.

### 6.2 Policy and Market Oversight

- **Transparency and Disclosure:** Regulators and investors must demand clarity on vendor-linked financing, prepayment deals, and the portion of sales supported by vendor capital.
- **Stress Testing:** Both vendors and buyers should rigorously test liquidity resilience against scenarios of sharp monetization declines (30–50% or more).
- **Regulatory Scrutiny:** Antitrust and financial authorities may investigate circular financing, especially where it concentrates market power or obscures risk.
- **Valuation Adjustments:** Equity analysts should differentiate “organic” revenue from circularly financed sales to better assess revenue quality.

## 7. Conclusion

The AI-driven capital surge and infrastructure build-out have created a complex ecosystem where vendors simultaneously supply hardware and finance their buyers. This circular capital dynamic fuels optimistic growth but also embeds dependencies that could magnify systemic risk. The sizable gap between hundreds of billions in CapEx commitments and the currently modest visible monetization suggests investors are financing a distant monetization horizon. If growth falters or financing conditions tighten, circular financing structures could precipitate rapid valuation corrections. Monitoring financing arrangements, demanding disclosure, and preparing for monetization shortfalls are critical steps to managing these emerging risks. Ultimately, this represents a structural, not merely credit-driven, vulnerability in the AI investment boom.

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