

Scarcity Is Not a Moat: How Durable Are AI Memory and Optical Profits?

Contract protection and difficult manufacturing can extend attractive returns. The investment question is whether those returns survive the next capacity expansion and product generation.

Information cutoff: 3 October 2026. Company disclosures are identified below; interpretations are Dilikoglu Research analysis.

Three investment takeaways

- A shortage benefits available supply; a competitive advantage determines which supplier retains attractive economics when supply catches up.
- Contracted volumes and pricing frameworks strengthen visibility, but their duration and coverage matter as much as the headline commitment.
- Valuation should distinguish cash earned during scarcity from returns on the capacity built to relieve it.

Identify what is actually scarce

A supplier can sell every available unit and still face a difficult valuation question. Today's price may reflect insufficient industry capacity, superior execution, or both. These explanations imply different earnings durability. A shortage establishes bargaining power at a point in time; a moat requires an advantage that survives a competitive response.

For memory, wafer starts are only the beginning. Finished output depends on functioning dies, packaging, testing and customer acceptance. High-bandwidth memory, or HBM, combines multiple memory dies in a stack; its economics should not be inferred directly from conventional DRAM. For optics, a constrained component can limit shipments even when assembly capacity is available. Component suppliers and producers of complete transceivers or integrated assemblies capture different parts of the value chain.

Announced capacity therefore cannot be treated as immediately saleable supply. Micron expects initial output from new facilities before those facilities become meaningful contributors several quarters later. SK hynix describes simultaneous investment in wafer production and advanced packaging. These are management plans, with distinct delivery gates-not interchangeable measures of available output.^{1,2}

Durability test	AI memory	Optical connectivity
Supply constraint	Wafers, good dies, stacking and testing	Qualified components, integration and assembly
Qualification	Product performance and reliable customer acceptance	Component and system performance in the intended architecture
Commercial visibility	Committed volumes and disclosed pricing arrangements	Design engagements, qualification and disclosed purchase commitments
Reinvestment	Process transitions, fabs and packaging	Component capacity, integration, equipment and testing
Evidence of durability	Cost and yield advantage through capacity additions	Retained designs and attractive returns through architecture changes

Comparison framework: Dilikoglu Research analysis; constraints and contract protection differ by product and supplier.

“Sold out” is the beginning of the inquiry

Commercial visibility runs from engagement through qualification and capacity allocation to binding commitments. These stages should not be collapsed into one backlog figure. Nor should undisclosed contract terms be interpreted as proof that protection is absent.

Micron's June filing describes multiyear strategic customer agreements with take-or-pay volumes and differing pricing provisions. Its September update reports 26 agreements and estimates that they represent more than 35% of revenue through 2030. Around three-quarters of estimated agreement revenue has a defined pricing framework, predominantly floors and ceilings; the remainder is periodically negotiated. These disclosures provide stronger evidence than a statement that production is allocated.^{1,3}

Nevertheless, volume protection is not identical to unlimited pricing power. A floor can protect economics while a ceiling constrains participation in further price increases. Remaining performance obligations are also not a complete measure of future demand: recognition rules and the presence of a pricing framework affect what enters the disclosed figure. Investors need the protected proportion, duration and terms, not simply the largest number.³

SK hynix reported long-term agreements with around ten customers in July. Coherent's September PhotonLink announcement disclosed anchor customers and long-term agreements for co-packaged and near-packaged optics, with revenue ramps expected in calendar fourth-quarter 2026. It also reported customer engagements. Engagement counts are not contracted revenue, and the announcement does not quantify standalone margins or minimum purchase economics.^{2,4}

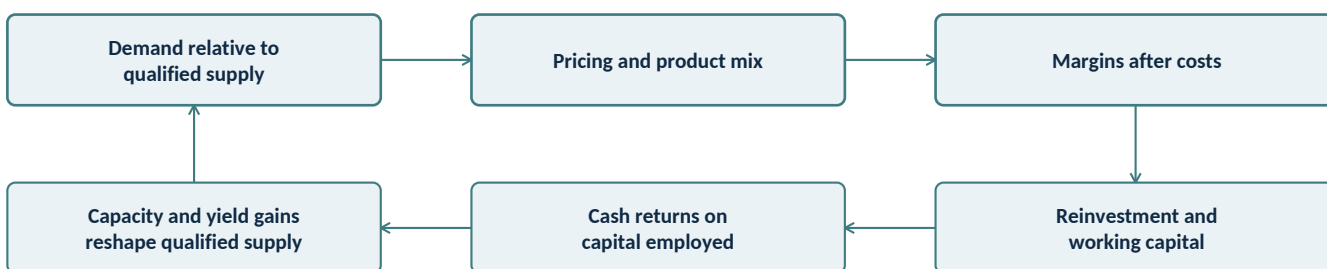
Separate shipment growth from price

Revenue can rise because more units ship, each system uses more content, the product mix changes, or comparable products command higher prices. Only the last directly establishes comparable-product pricing improvement. None alone establishes permanent pricing power.

Micron's fiscal fourth-quarter commentary separates DRAM bit growth in the mid-single digits from pricing growth in the high teens, sequentially. It also describes a narrowing gross-margin gap between HBM and conventional DRAM. Strategic importance therefore does not automatically identify the highest-margin product at every point in the cycle.¹

For optics, moving to a more complex assembly may increase revenue per unit while adding purchased content and manufacturing work. The relevant question is how much incremental gross profit and cash the supplier retains. Higher system spending should not be mapped mechanically onto a supplier's margin.

DURABILITY FRAMEWORK | DILIKOGLU RESEARCH ANALYSIS



Conceptual relationships, not a forecast. More supply can relieve scarcity; better yields and lower costs can preserve returns despite lower prices.

The strongest case for durable returns

The bullish argument deserves more than a cyclical disclaimer. Successive product generations may repeatedly tighten qualified supply before the previous bottleneck has fully cleared. Demand can expand across memory capacity, bandwidth and connectivity simultaneously. Capacity additions need not eliminate attractive returns if customer requirements become more demanding at least as quickly as effective supply improves.

Current disclosures support parts of this case. Micron's pricing frameworks extend protection beyond a single ordering cycle. SK hynix reported that HBM4 mass shipments began in calendar second-quarter 2026, while Coherent's platform announcement links components with assembly and testing. These are tangible commercial or technical developments, although company announcements do not independently establish relative leadership.^{2, 4}

Manufacturing execution can make the difference. A supplier producing more acceptable output from the same equipment can withstand lower selling prices better than a competitor. Qualification and integration may also make replacement costly for customers. If these advantages recur across generations, expanding capacity can compound value rather than merely normalize an unusually profitable year.

For that argument to hold, demand must absorb qualified output, customers must retain the supplier, and the next generation must earn adequate returns after its development and production costs. Contract renewal becomes particularly informative: protection negotiated during a shortage is stronger evidence of a moat when customers renew attractive economics after alternatives become available.

The competing explanation remains plausible. Industry investment could resolve a shared bottleneck without creating a lasting relative advantage. Product transitions could redistribute value among components and assemblies. The evidence presently supports differentiated durability, rather than either permanent scarcity or inevitable collapse.

Follow profits into cash

A high margin does not reveal the cash needed to reproduce it. Capacity additions, start-up costs, inventory and receivables can absorb cash before output reaches customers. Depreciation spreads historical investment over time; it is not a forecast of the expenditure required for the next product generation.

Micron already demonstrates substantial cash generation: for fiscal fourth-quarter 2026, it reported \$43.973 billion of operating cash flow and \$33.199 billion of adjusted free cash flow after \$10.774 billion of net capital expenditure. That is evidence against dismissing the earnings as merely accounting profits. The adjusted measure includes capital-expenditure offsets; it does not settle the durability of future returns.⁵

Cash-flow classifications also matter. Micron classified fiscal-2026 customer contract-liability deposit proceeds within financing activities. Analysts should follow the company's statements and count such receipts once, rather than automatically treating all customer funding as operating cash.⁵

Value the duration, not just the peak

A higher near-term profit forecast raises value if the cash is delivered. A higher terminal valuation additionally assumes something about profits and returns beyond the explicit forecast. These are separate judgments.

A defensible valuation can recognize protected contract-period economics, then test renewal pricing, utilization, reinvestment and returns on new capacity. It should not extend exceptional margins indefinitely and then add an unsupported premium multiple for the same scarcity. Equally, forcing rapid normalization despite disclosed contractual protection would discard relevant evidence.

What we will monitor

- **Next two earnings releases:** shipment growth versus comparable-product pricing and mix. Revenue supported by broader volume growth is different from revenue driven mainly by price.
- **Next two to four quarters:** qualified output versus announced capacity. Improving yields and accepted shipments would strengthen the execution case.
- **Contract updates and renewals:** protected volumes, pricing frameworks and duration where disclosed. Renewal on attractive terms would be stronger evidence than engagement counts.
- **Each quarterly cash statement:** operating cash, inventory, receivables and capital spending. Persistent cash absorption despite higher profits would warrant closer scrutiny.
- **Each architecture transition:** actual shipments and retained customer programs. Announced participation should become revenue without disproportionate development or integration costs.
- **Over the next 12-24 months:** returns as new capacity contributes, considering capital committed before revenue begins. Attractive incremental returns after supply expands would provide the clearest evidence of durability.

Scarcity can finance the investment that builds a moat, but it can also finance the capacity that ends the shortage. The distinction will emerge through renewed contracts, manufacturing execution and cash returns across product generations. Investors should pay for demonstrated protection and credible advantages while keeping the unproven duration explicit.

Sources and evidence

1. [Micron, fiscal Q4 2026 prepared remarks](#), 30 September 2026. Contract, capacity and pricing statements are management disclosures or expectations; fiscal year ended 3 September 2026.
2. [SK hynix, Q2 2026 business results](#), 29 July 2026. Calendar quarter ended 30 June 2026; investment plans are management expectations.
3. [Micron, fiscal Q3 2026 Form 10-Q](#), filed 25 June 2026. Contract structure and revenue-recognition disclosures; quarter ended 28 May 2026.
4. [Coherent, PhotonLink platform announcement](#), 21 September 2026. Customer agreements and engagements are company disclosures; anticipated ramps are guidance.
5. [Micron, fiscal Q4 and full-year 2026 results](#), 30 September 2026. Reported cash flows and company-defined non-GAAP adjusted free cash flow.

Disclosures

Tugay Dilikoğlu holds no Micron, Coherent or SK hynix securities, has no material interest in these companies and received no issuer or third-party compensation for this commentary.

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