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UPDATE

October 21, 2026 04:01 AM GMT

Semiconductors | North America

Semiconductor Inventory Tracker: Leaner Channel, Limited Restocking

Total supply chain DOI was ~flat q/q, slightly better than seasonality, but remains 30 days above its historical median (with most of that coming from longer producer cycle times). Inventory trends are improving, particularly in Analog/MCU and Auto, but broad restocking remains elusive.

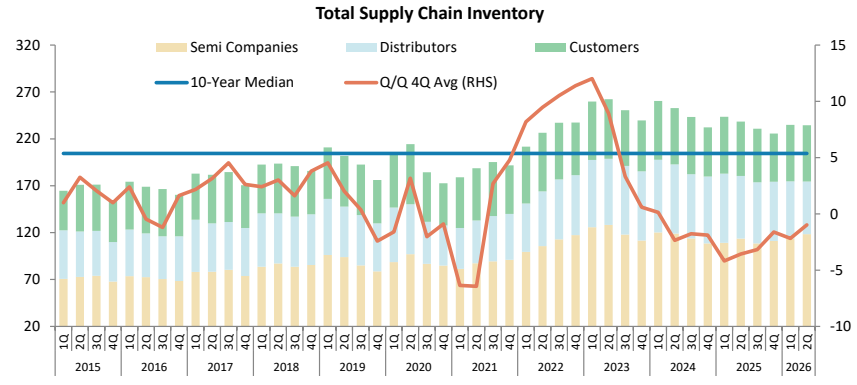
Key Takeaways

- Distributor DOI fell 5 days q/q, compared with a typical ~1-day seasonal decline.
- Producer DOI rose 5 days q/q, ~1 day above seasonal, though Analog/MCU DOI declined 9 days.
- Customer DOI was flat q/q, in-line with seasonality, while Auto OEM and Auto Supplier DOI both fell 3 days and are now below historical medians.

Supply chain DOI was ~flat q/q in 2Q, slightly better than the typical ~1-day seasonal increase, though still 30 days above its historical median. Distributor DOI fell 5 days as COGS growth outpaced inventory growth, while producer DOI rose 5 days, ~in-line with seasonal. Analog/MCU producers were a notable exception, with DOI declining 9 days, while customer DOI remained flat.

The data point to continued inventory discipline rather than a broad restocking cycle. Distributors are running leaner, Analog/MCU inventories are improving, and Auto OEM and Auto Supplier DOI have moved below historical medians. We continue to favor areas where supply/demand is tightening or inventory risk is more defensible: premium-end Analog (ADI, NXP), compute/networking (NVDA, AVGO), and memory (MU, SNDK).

Exhibit 1: Stacked DOI was ~flat q/q, against a seasonal increase of ~1 day.



Source: FactSet, Morgan Stanley Research

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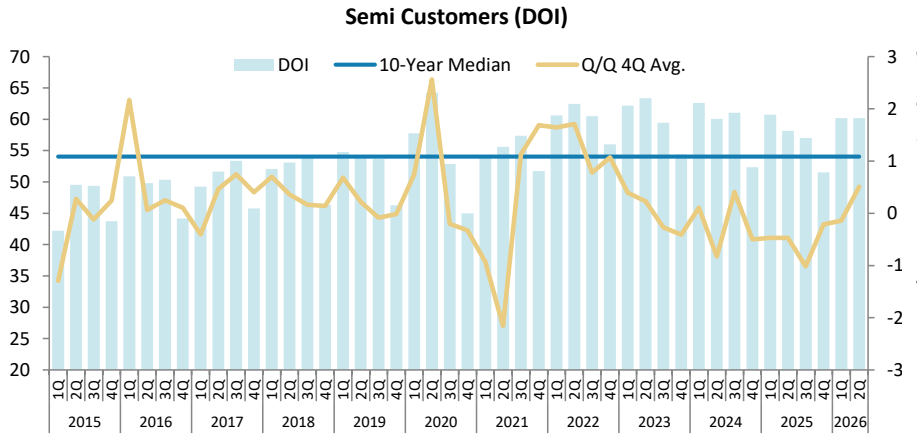
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Supply Chain Inventory Overview

Supply Chain Inventory Overview Supply chain DOI was ~flat q/q in 2Q, in-line with a seasonal ~1-day increase, and sits 30 days above the historical median. Distributors drove most of the result, falling more than seasonal as COGS growth outpaced inventory. Producers built ~1 day above seasonal, and customers were in-line.

Semi customer DOI was ~flat q/q at 60 days, in line with seasonality, and remains 6 days above the historical median of 54. Consumer (+15 days), Computing/Mobile (+12) and Communications (+9) saw the largest increases. US Industrials (-6), Machinery (-5), ODMs (-5), Auto OEMs (-3), Auto Suppliers (-3) all declined. Auto OEMs and Auto Suppliers are now below their historical medians and Storage is in line, while the remaining end markets remain above. The trailing 4Q average rose from last quarter.

Exhibit 2: Semi Customer DOI remained flat sequentially to 60 days, in-line with a seasonal change of 0 days. DOI remains above the historical median and trailing 4 quarters increased from last quarter.



Source: FactSet, Morgan Stanley Research

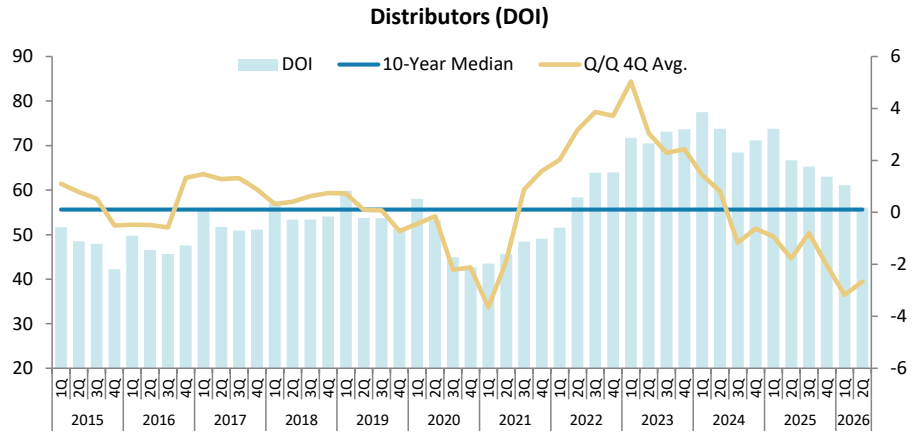
Exhibit 3: Sequential and y/y change in semi customer inventory levels

		Q/Q		Y/Y	
		Change in DOI	Change in $ Inventory	Change in DOI	Change in $ Inventory
Customers	AUTO OEMS	-3	0%	-2	-2%
	AUTO SUPPLIERS	-3	-16%	-4	-18%
	US INDUSTRIALS	-6	3%	-6	4%
	MACHINERY	-5	2%	-5	8%
	COMMUNICATIONS	9	16%	16	32%
	COMPUTING/MOBILE	12	36%	19	92%
	STORAGE	2	7%	0	13%
	CONSUMER	15	9%	-2	-10%
	CONTRACT MANUFACTURERS	-1	13%	0	37%
	ODM'S	-5	9%	10	87%
	TOTAL	**0**	**6%**	**2**	**16%**

Source: FactSet, Morgan Stanley Research

Distributor DOI fell 5 days q/q, more than the seasonal decline of ~1 day, and is now in line with the historical median of 56 days. DOI fell at all three distributors as COGS growth outpaced inventory growth at each. WPG fell the most, down 6 days (inventory +26% vs. COGS +44%), followed by Avnet, down 4 days (+11% vs. +16%), and Arrow, down 1 day (+4% vs. +6%). Inventory dollars still rose at every distributor, and the trailing 4Q average increased from last quarter. *(Arrow and Avnet are not covered by Morgan Stanley Research. WPG is covered by Daniel Yen).*

Exhibit 4: Distributor inventory is at 56 days, down 5 days q/q, above seasonal decrease of 1 day. DOI is in-line with the historical median while trailing 4-quarters increased sequentially.



Source: FactSet, Morgan Stanley Research

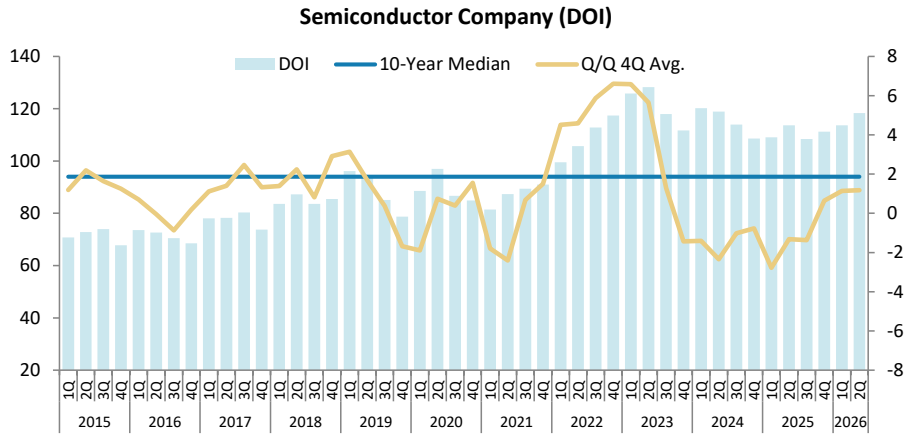
Exhibit 5: Sequential and y/y change in distributor inventory levels

		Q/Q		Y/Y	
		Change in DOI	Change in $ Inventory	Change in DOI	Change in $ Inventory
Distributors	Distributors	-5	13%	-11	29%

Source: FactSet, Morgan Stanley Research

Semiconductor company DOI rose 5 days q/q to 118 days, ~in-line with a seasonal increase of 4 days, and is now 24 days above the historical median. Others (+18 days), Smartphones/Networking/PLDs/Multi-Market (+16) and Foundries (+8) drove the increase. Analog/MCU and Semi Cap Equipment both fell 9 days, and Memory (–5), Components (–4) and Computing (–3) also declined. Inventory dollars rose q/q and y/y in nearly every group; the only flat readings were Analog/MCU q/q and Semi Cap Equipment y/y. The trailing 4Q average edged up in 2Q.

Exhibit 6: Semiconductor Company inventory is at 118 days, up 5 days q/q, which is 1 day above the seasonal increase of 4 days. DOI is 24 days above the historical median and trailing 4-quarters increased.



Source: FactSet, Morgan Stanley Research

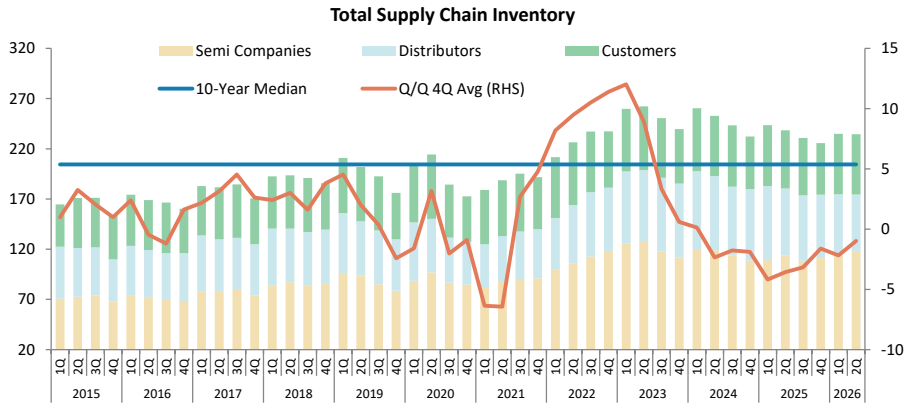
Exhibit 7: Sequential and y/y change in semi company inventory levels

		Q/Q		Y/Y	
		Change in DOI	**Change in $ Inventory**	**Change in DOI**	**Change in $ Inventory**
Semi Companies	Computing	-3	14%	11	59%
	Analog/MCU	-9	0%	-15	2%
	Smartphones/Networking/PLD's/I	16	11%	16	16%
	Memory	-5	8%	-9	8%
	Foundries	8	19%	10	20%
	Semi Cap Equipment	-9	2%	-41	0%
	Components	-4	6%	-3	24%
	Others	18	18%	17	20%
	TOTAL	**5**	**11%**	**5**	**20%**

Source: FactSet, Morgan Stanley Research

Total supply chain DOI across producers, distributors and customers was flat q/q, roughly in-line with the typical 1 day seasonal increase, and is now tracking at 30 days above the historical median. Distributors were the main source of a decline, falling 5 days against a seasonal decline of ~1 day. Customers were in-line with seasonality, while producers built ~1 day more than seasonal. Strong COGS and revenue growth continues to pull distributor days lower. For the supply chain overall, the trailing 4Q average rose ~1 day from last quarter.

Exhibit 8: Total supply chain inventory remained flat q/q, less than the seasonal increase of 1 day. DOI is 30 days above the historical median, and trailing 4-quarters upticked slightly.



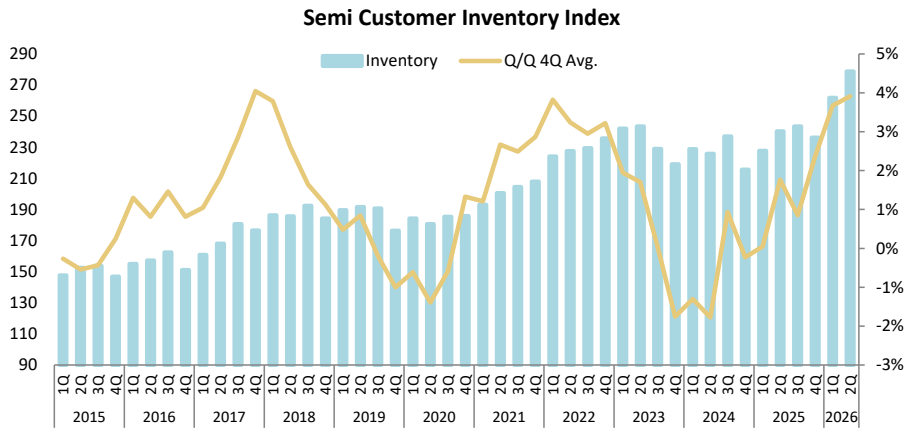
Source: FactSet, Morgan Stanley Research

Semi Inventory Analysis: DOI ~flat at Customers, lower at Distributors, higher at Producers.

Customer Inventory

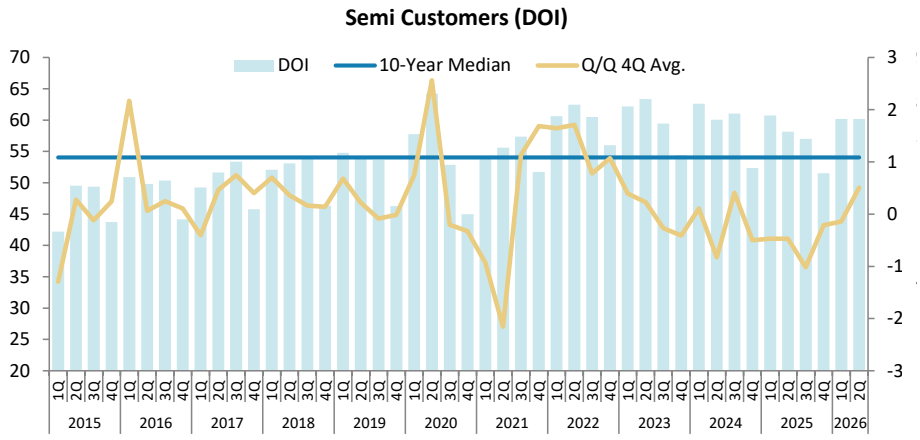
Semi customer DOI was ~flat q/q, in line with seasonality. Absolute inventory rose q/q across most end markets, while Auto OEM inventories were flat and Auto Supplier inventories declined. COGS declined in Auto Suppliers and Consumer and rose in Auto OEMs, US Industrials, Machinery, Communications, Computing/Mobile, Storage, Contract Manufacturers and ODMs.

Exhibit 9: Our Semi Customer Inventory Index increased 6.5% and trailing 4-quarters increased 3.9%.



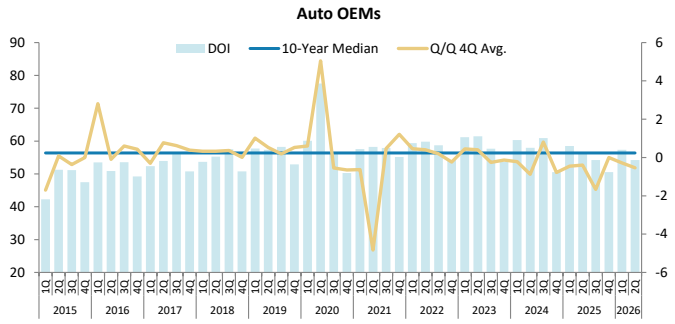
Source: FactSet, Morgan Stanley Research

Exhibit 10: Semi Customer DOI remained flat sequentially to 60 days, in-line with a seasonal change of 0 days. DOI remains above the historical median and trailing 4 quarters increased from last quarter.



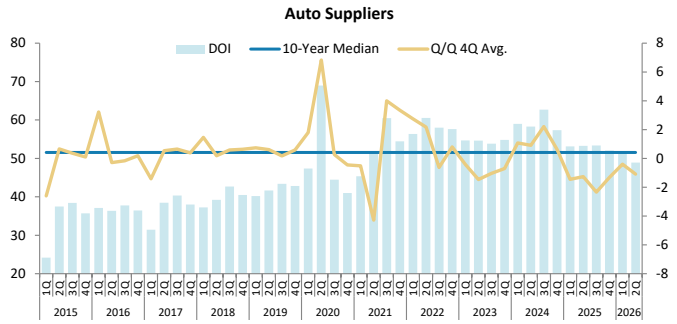
Source: FactSet, Morgan Stanley Research

Exhibit 11: Auto OEM DOI fell 3 days q/q and has moved below the historical median of 56 days. The trailing 4Q average declined from last quarter.



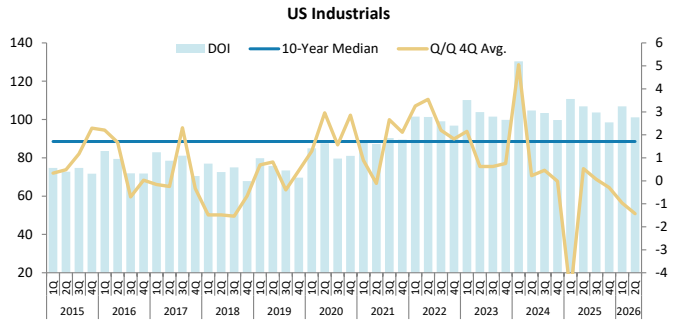
Source: FactSet, Morgan Stanley Research

Exhibit 12: Auto Supplier DOI fell 3 days q/q and sits below the historical median. The trailing 4Q average declined.



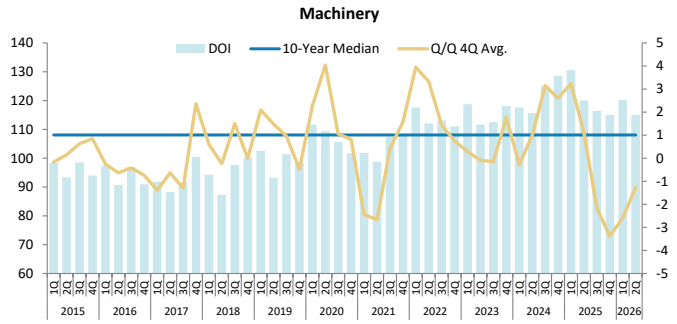
Source: FactSet, Morgan Stanley Research

Exhibit 13: Industrial DOI decreased 6 days q/q, tracking 13 days above the historical median. Trailing 4-quarters declined q/q.



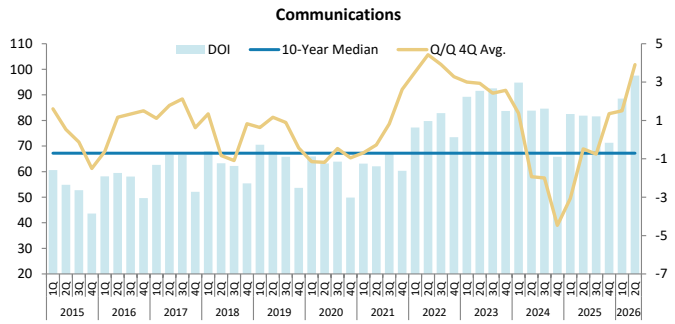
Source: FactSet, Morgan Stanley Research

Exhibit 14: Machinery DOI decreased by 5 days q/q, tracking 7 days above the historical median. Trailing 4-quarters increased q/q.



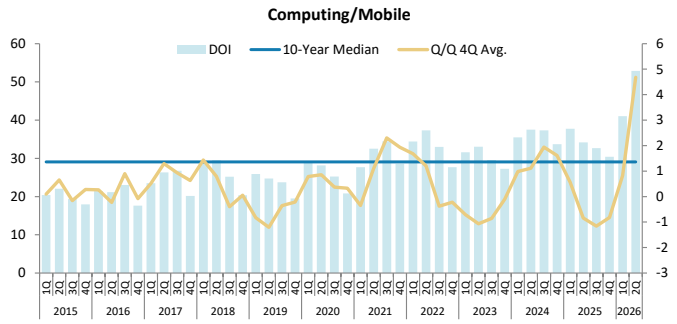
Source: FactSet, Morgan Stanley Research

Exhibit 15: Communications DOI increased 9 days q/q, tracking 30 days above the historical median. Trailing 4-quarters increased q/q.



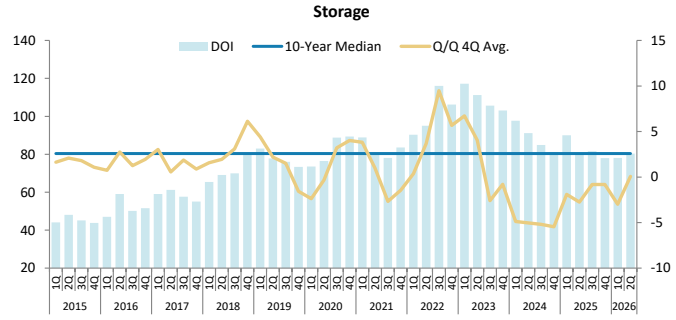
Source: FactSet, Morgan Stanley Research

Exhibit 16: Computing/Mobile company DOI increased by 12 days q/q, tracking 24 days above the historical median. Trailing 4-quarters increased sequentially.



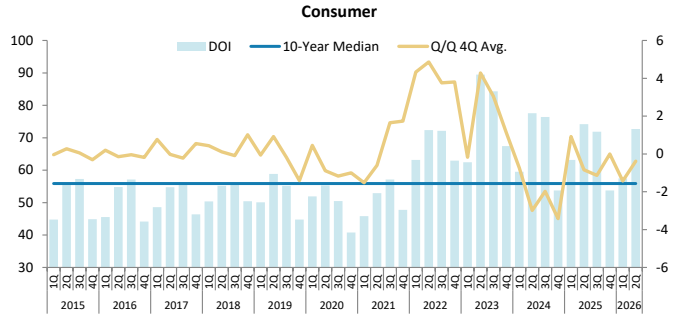
Source: FactSet, Morgan Stanley Research

Exhibit 17: Storage DOI increased by 2 days q/q, now tracking in-line with the historical median. Trailing 4-quarters increased from last quarter.



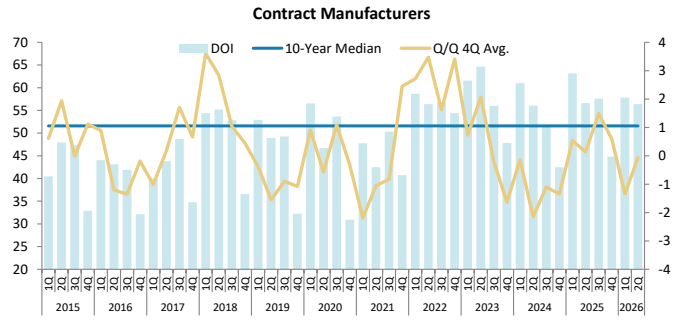
Source: FactSet, Morgan Stanley Research

Exhibit 18: Consumer company DOI increased 15 days q/q, now tracking 17 days above the historical median. Trailing 4-quarters increased.



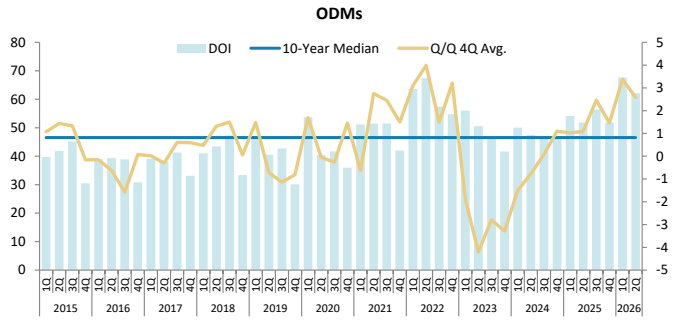
Source: FactSet, Morgan Stanley Research

Exhibit 19: Contract manufacturers DOI decreased 1 day q/q, tracking 5 days above the historical median. Trailing 4-quarters increased from last quarter.



Source: FactSet, Morgan Stanley Research

Exhibit 20: ODM DOI decreased 5 days q/q, tracking 16 days above historical median. Trailing 4-quarter decreased from last quarter.

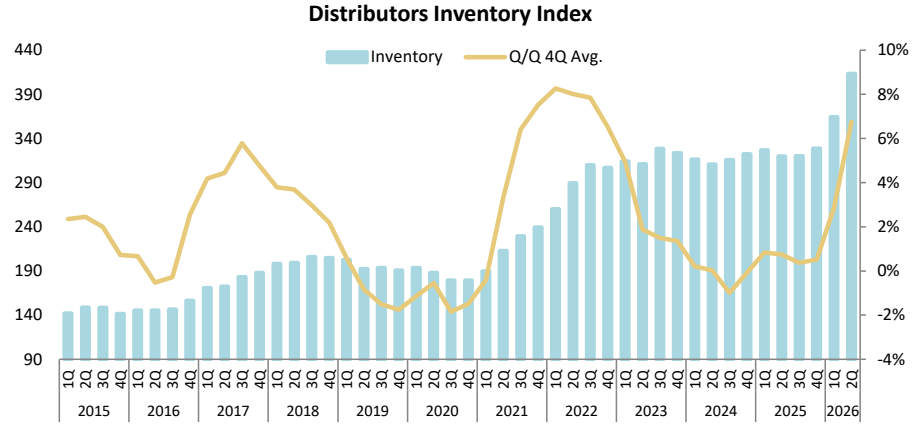


Source: FactSet, Morgan Stanley Research

Distributor Inventory

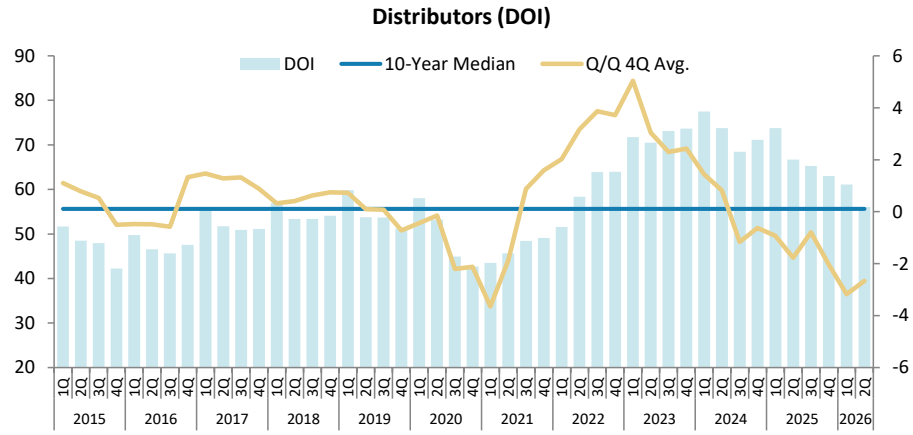
Distributor DOI fell 5 days q/q, ahead of the ~1-day seasonal decline, and is tracking in-line with the historical median.

Exhibit 21: Distributor Inventory index increased 13.5% sequentially, and trailing 4-quarters increased from last quarter.



Source: FactSet, Morgan Stanley Research

Exhibit 22: Distributor inventory is at 56 days, down 5 days q/q, above seasonal decrease of 1 day. DOI is in-line with the historical median while trailing 4-quarters increased sequentially.

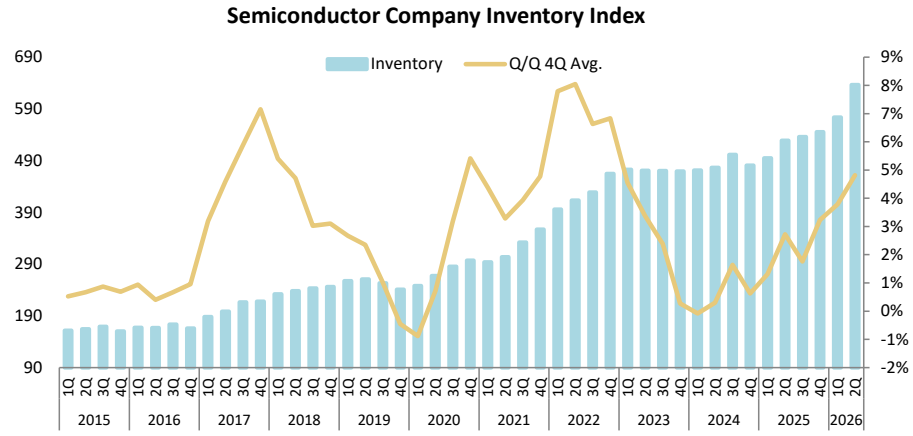


Source: FactSet, Morgan Stanley Research

Producer Inventory

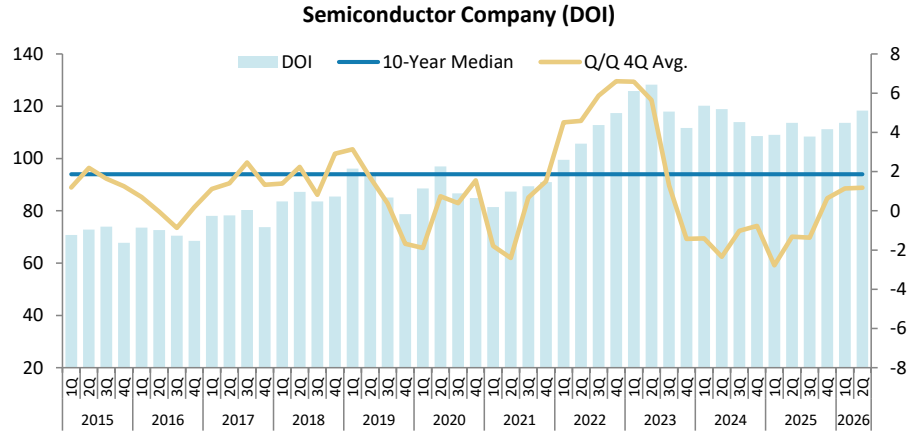
Semiconductor company DOI rose slightly more than seasonal. Analog/MCU and Semi Cap Equipment posted the largest declines, while the trailing 4Q average rose again.

Exhibit 23: Semi Company inventory index increased 5.2% q/q, with trailing 4-quarters increasing.



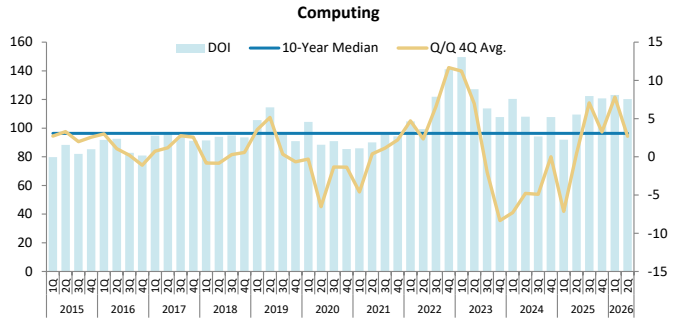
Source: FactSet, Morgan Stanley Research

Exhibit 24: Semiconductor Company inventory is at 118 days, up 5 days q/q, which is 1 day above the typical seasonal increase of 4 days. DOI is 24 days above the historical median and trailing 4-quarters slightly increased.



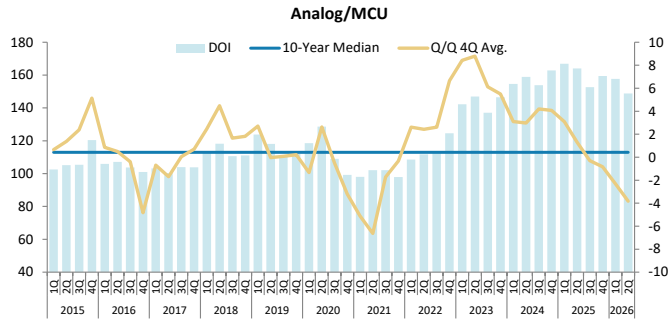
Source: FactSet, Morgan Stanley Research

Exhibit 25: Computing group DOI decreased 3 days q/q, now tracking 24 days above the historical median. Trailing 4-quarters decreased.



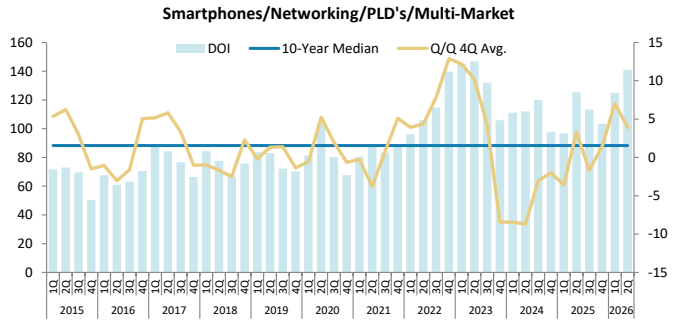
Source: FactSet, Morgan Stanley Research

Exhibit 26: Analog/MCU group DOI decreased 9 days q/q, now tracking 36 days above the historical median. Trailing 4-quarters fell q/q.



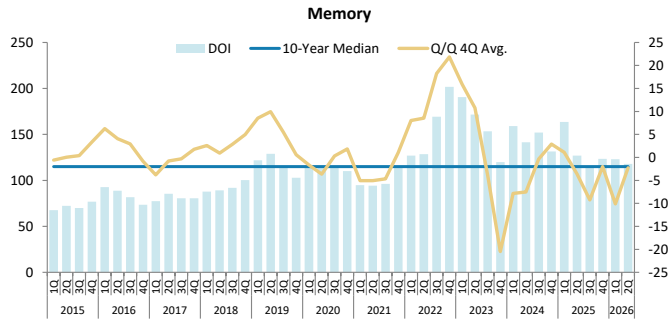
Source: FactSet, Morgan Stanley Research

Exhibit 27: Smartphone DOI increased 16 days q/q, now tracking 53 days above the historical median. Trailing 4-quarters decreased q/q.



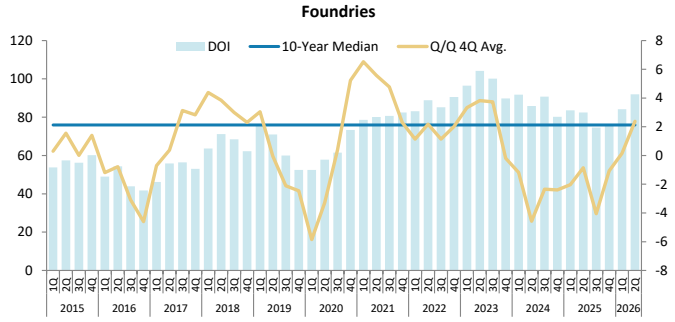
Source: FactSet, Morgan Stanley Research

Exhibit 28: Memory group DOI decreased 5 days q/q, now tracking 3 days above the historical median. Trailing 4-quarters increased.



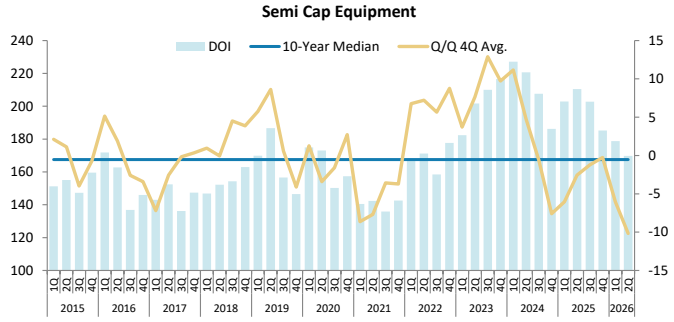
Source: FactSet, Morgan Stanley Research

Exhibit 29: Foundry group DOI increased by 8 days q/q, now tracking 16 days above the historical median. Trailing 4-quarters increased.



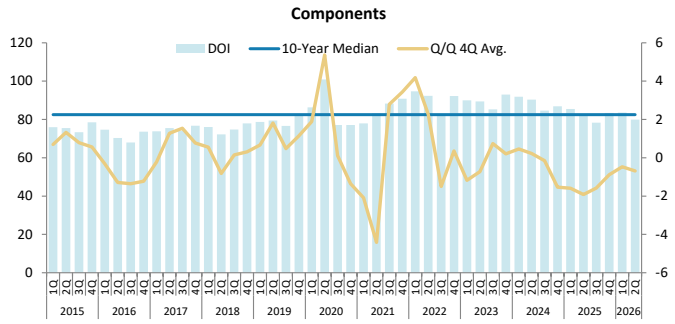
Source: FactSet, Morgan Stanley Research

Exhibit 30: Semi Cap Equipment group DOI decreased 9 days q/q, now tracking 2 days above the historical median. Trailing 4-quarters decreased from last quarter.



Source: FactSet, Morgan Stanley Research

Exhibit 31: Components group DOI decreased 4 days q/q, now tracking 3 days below the historical median. Trailing 4-quarters decreased from last quarter.



Source: FactSet, Morgan Stanley Research

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Global Stock Ratings Distribution

(as of September 30, 2026)
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	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1599	43%	455	48%	28%	783	44%
Equal-weight/Hold	1563	42%	394	42%	25%	763	43%
Not-Rated/Hold	2	0%	1	0%	50%	1	0%
Underweight/Sell	570	15%	96	10%	17%	227	13%
Total	3,734		946			1774	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.
In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.
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Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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INDUSTRY COVERAGE: Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (10/20/2026)
Ella Tulchinsky		
Infleqtion, Inc. (INFQ.N)	E (10/15/2026)	$8.66
Xanadu Quantum Technologies Limited (XNDU.O)	E (10/15/2026)	$2.85
Joseph Moore		
Advanced Micro Devices (AMD.O)	E (06/09/2024)	$534.74
Aeva Technologies Inc (AEVA.O)	E (07/19/2021)	$10.27
Allegro Microsystems Inc (ALGM.O)	O (02/13/2026)	$33.91
Ambarella Inc (AMBA.O)	O (03/29/2016)	$63.22
Amkor Technology Inc (AMKR.O)	E (11/08/2023)	$41.70
Analog Devices Inc. (ADI.O)	O (11/16/2023)	$397.05

Astera Labs Inc (ALAB.O)	O (05/11/2025)	$284.80
Broadcom Inc. (AVGO.O)	O (06/09/2024)	$334.37
Cerebras Systems (CBRS.O)	O (06/08/2026)	$118.24
GlobalFoundries Inc (GFS.O)	E (10/28/2024)	$47.01
Intel Corporation (INTC.O)	E (02/22/2023)	$91.69
IonQ Inc (IONQ.N)	E (04/25/2023)	$31.26
Marvell Technology Group Ltd (MRVL.O)	E (09/14/2015)	$240.42
Microchip Technology Inc. (MCHP.O)	E (07/10/2024)	$75.85
Micron Technology Inc. (MU.O)	O (10/06/2025)	$896.07
Navitas Semiconductor Corp (NVTS.O)	U (04/06/2025)	$8.74
NVIDIA Corp. (NVDA.O)	O (03/16/2023)	$216.47
NXP Semiconductor NV (NXPI.O)	O (02/11/2025)	$237.60
ON Semiconductor Corp. (ON.O)	++	$75.62
Qualcomm Inc. (QCOM.O)	E (06/24/2026)	$175.71
Quantinuum (QNT.O)	O (10/15/2026)	$35.68
SanDisk Corporation. (SNDK.O)	O (03/03/2025)	$1,365.38
Semtech Corp. (SMTC.O)	E (04/06/2025)	$136.20
Silicon Laboratories Inc. (SLAB.O)	E (01/19/2021)	$221.10
SiTime Corporation (SITM.O)	O (09/16/2026)	$497.11
Skyworks Solutions Inc (SWKS.O)	E (11/28/2018)	$81.30
Texas Instruments (TXN.O)	U (04/13/2020)	$277.78
Wolfspeed, INC (WOLF.N)	NR (04/06/2025)	$23.50
Lee Simpson		
Arm Holdings plc (ARM.O)	E (04/07/2026)	$221.06
Cadence Design Systems Inc (CDNS.O)	O (02/14/2024)	$319.87
PDF Solutions Inc (PDFS.O)	O (09/08/2026)	$41.18
Synopsys Inc. (SNPS.O)	O (09/08/2026)	$447.62

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* Historical prices are not split adjusted.

INDUSTRY COVERAGE: Semiconductor Capital Equipment

COMPANY (TICKER)	RATING (AS OF)	PRICE* (10/20/2026)
Shane Brett		
Advanced Energy Industries Inc. (AEIS.O)	O (07/22/2026)	$239.65
Applied Materials Inc. (AMAT.O)	E (05/18/2026)	$404.98
Camtek (CAMT.O)	E (12/01/2025)	$127.90
KLA Corp (KLAC.O)	O (01/15/2026)	$161.74
Lam Research Corp (LRCX.O)	O (05/18/2026)	$263.45
MKS Inc. (MKSI.O)	O (08/04/2024)	$211.14
Nova Ltd (NVMI.O)	E (12/01/2025)	$320.03
ONTO Innovation Inc (ONTO.N)	O (06/14/2026)	$219.62
Teradyne Inc (TER.O)	E (07/30/2025)	$336.59

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