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Hardware

Storage Component Earnings Preview - Thr, 10/26 STX & Mon, 10/30 WDC

STX (N: TP\$60) - Reports - Thu, 10/26 BMO - Lifting TP to \$60 (from \$55)

- STX in early September suggested that FQ1 results will likely be in the lower half of the forecast range. We are shifting our model to reflect this outlook
- Looking to FQ2, our conversations suggest HDD ASPs will lift again, by low to mid single digits sequentially.
- STX volumes are also likely to grow helped by seasonality and a large CSP order.
- As such, we see potential for STX to forecast upside to sales and GM targets.
- Looking forward, we expect the HDD industry will eventually realize a more meaningful recovery, however we believe this result will require CSP requirements to lift significantly, a shift we don't foresee until mid CY'24.
- With HAMR, while we believe STX remains optimistic, we continue to expect a slower ramp, given general adoption timeframes for new technology. However, STX's faster than expected launch of 24 TB PMR/28 TB SMR could put them in good shape to maintain share in the near-term.
- Net, our FQ1 estimates drop to \$1.5B/(\$0.27) vs. consensus at \$1.53/(\$0.20) to align with STX's revised commentary around guidance. Our FQ2 numbers lift however to \$1.8B/\$0.13 vs. consensus at \$1.6B/(\$0.01) as we account for our expectation of improved pricing and some uptick in STX nearline volumes.
- We are lifting our TP to \$60 (from \$55), which assumes a ~18X multiple (net debt) applied to our new 2025 estimates. We'd note this multiple is high for a commodity tech name, but it also accounts for the likelihood storage markets recover and that STX eventually benefits from its lead with HAMR.

WDC (O: TP\$60) - Reports - Mon, 10/30 BMO

- WDC should come in ahead of FQ1 guidance/consensus given: 1) a conservative guide, and 2) better than expected ASPs in NAND spot/retail markets as pricing recovered over the course of the quarter, a result that also may have driven some upside to expected bit shipments.
- And, we now expect NAND pricing will lift meaningfully in FQ2, with our checks suggesting blended prices lift in the low teens.
- Moreover, we see some upside vs. our prior outlook for HDDs [given our checks suggesting pricing in that market should also lift into FQ2](#).
- Net, we are lifting our estimates for the current quarter to \$2.725B/(\$1.72) vs. consensus at \$2.65B/\$1.91, with the delta predominantly tied to an upward shift to our ASP assumptions (NAND down 7% vs. our prior outlook for an 11% decline). Looking to FQ2, our numbers improve further as we now are modeling a 5% increase in NAND Px and a 2% sequential lift in HDD ASPs (vs. our prior outlook for 3% and flat) with our estimates going to \$3.152B/(\$0.78) vs. consensus at \$2.92B/(\$1.39). We'd note that our new assumptions still trail our expectations for price shifts in FQ2 (in part taking account for management's typical conservatism when providing guidance).
- We are reiterating our \$60 PT and OUTPERFORM rating on WDC. We see our positive outlook as supported by improving end markets and the potential for a strategic outcome that would unlock value in WDC's NAND business.

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STX (N: TP\$60) - Reports - Thu, 10/26 BMO

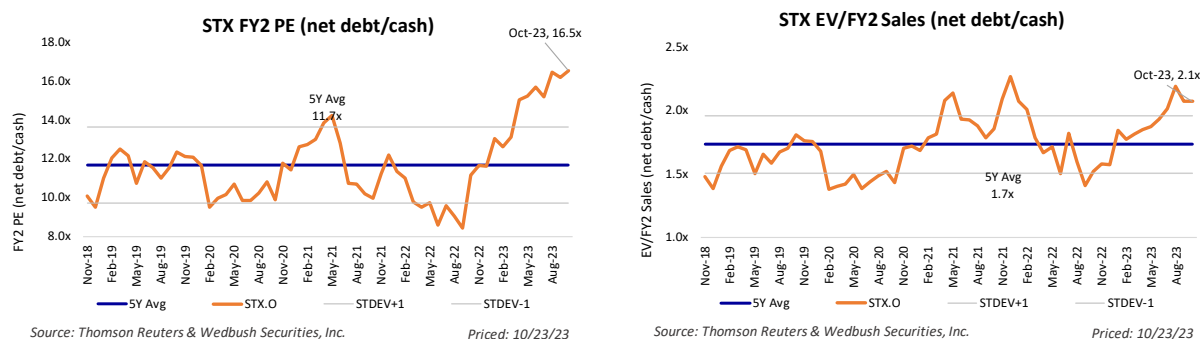
We arrive at our price target price by applying a target multiple of ~18X to our FY2025 EPS of \$4.61 (net debt).

Figure 1: STX Wedbush vs. Consensus Estimates

STX.O \$M						
	Outlook	Wedbush	OLD	Consensus		
	1Q24E	1Q24E	1Q24E	Var	1Q24E	Var
EPS	-\$0.36 - \$0.04	-\$0.27	-\$0.16	-\$0.11	-\$0.20	-\$0.07
Revenue	\$1,400M - \$1,700M	\$1,503	\$1,550	-3%	\$1,526	-2%
GM%		21.0%	21.9%	-91bps	20.3%	70bps
OM%		3.9%	5.3%	-143bps	3.7%	17bps

Source: Company reports, Thomson Reuters and Wedbush Securities, Inc. estimates

Figure 2: STX Historical Multiples



Source: Thomson Reuters and Wedbush Securities, Inc. estimates

WDC (O: TP\$60) - Reports - Mon, 10/30 BMO

Numerous press reports are suggesting WDC is nearing a deal with Kioxia that would combine WDC's flash operations with those of the Japanese NAND maker, with an announcement expected as soon as WDC's earnings report.

We continue to see a deal with Kioxia as likely. Again, while we see questions surrounding such a deal's outcome that in part will be dictated by deal terms (e.g., regulatory approval is more likely, in our view, if the combined entity is located in Japan), we believe the more important outcome is the likely split of WDC's HDD and NAND businesses in the facilitation of the transaction. Specifically, we believe that WDC's NAND business currently has a minimal implied valuation as suggested by our math in **Figure 3** which uses STX's EV/S as a proxy to value WDC's HDD operations as an independent entity. As such, we believe by splitting the NAND and HDD operations, the deal should immediately prove accretive to shareholders whether or not the transaction is eventually consummated.

Figure 3: WDC Transaction Valuation

10/23/23	Price USD	MktCap\$M	EV\$M
STX.O	\$65.25	13,562	18,225
WDC.O	\$41.81	13,553	19,476

HDD - Revenues \$M	Revs NTM	P/Sales	EV/Sales
STX	\$6,690	2.03X	2.72X
WDC - Implied Multiples	\$5,821	2.03X	2.72X
WDC - Implied EV - HDD			\$15,858 Implied EV - HDD

NAND - Revenues \$M (NTM)	Revs NTM	P/Sales	EV/Sales
WDC	\$6,808	0.26X	0.53X 3,618 Implied Enterprise Value for NAND

Source: Company reports, Thomson Reuters and Wedbush Securities, Inc. estimates

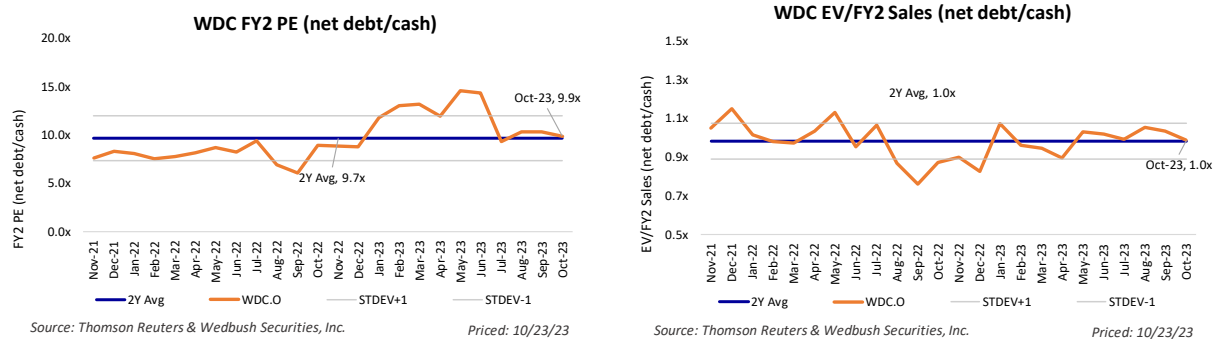
We arrive at our target price by applying a PE multiple of ~7X to our FY2025 estimate of \$10.40 (net debt).

Figure 4: WDC Wedbush vs. Consensus Estimates

WDC \$M	Wedbush 1FQ2024E	OLD 1FQ2024E	Var	Consensus 1FQ2024E	Var
EPS - Diluted	(\$1.72)	(\$1.94)	\$0.22	(\$1.91)	\$0.19
Net Revenue	2,725	2,653	3%	\$2,650	3%
Gross Margin %	6.0%	3.5%	254bps	3.6%	244bps
Operating Margin %	-15.2%	-18.4%	311bps	-19.0%	376bps

Source: Company reports, Thomson Reuters and Wedbush Securities, Inc. estimates

Figure 5: WDC Historical Multiples



Source: Thomson Reuters and Wedbush Securities, Inc. estimates

STX: Income Statement and Other Selected Financials

Seagate Technology (STX)									
Fiscal year ending June 30									
	1Q24E	2024E				2025E			
	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	
\$M									2023A
EPS - Non_GAAP	-\$0.27	\$0.13	\$0.16	\$0.36	\$0.78	\$1.28	\$1.14	\$1.40	2024E
Revenue	1,503	1,808	1,798	1,916	2,163	2,387	2,252	2,327	2025E
GM%	21.0%	23.0%	23.8%	25.5%	26.9%	29.0%	29.3%	30.9%	
OM%	3.9%	8.1%	8.5%	10.3%	13.5%	16.9%	16.5%	18.5%	
OPERATING METRICS									
	1Q24E	2Q24E	3Q24E	4Q24E	1Q25E	2Q25E	3Q25E	4Q25E	
HDD Revenue	\$1,313	\$1,558	\$1,548	\$1,666	\$1,913	\$2,137	\$2,002	\$2,077	2023A
HDD Cost	1,044	1,204	1,183	1,241	1,394	1,506	1,404	1,419	2024E
HDD GM	20.4%	22.7%	23.6%	25.5%	27.1%	29.5%	29.9%	31.6%	2025E
Total units	13.3 m	15.1 m	14.6 m	15.9 m	17.9 m	19.3 m	17.1 m	17.5 m	
ASP	\$84.28	\$86.37	\$88.92	\$89.01	\$93.03	\$97.69	\$102.33	\$104.24	
Y/Y Trends									
Revenue	-26%	-6%	-2%	20%	46%	37%	29%	25%	
INCOME STATEMENT									
	1Q24E	2Q24E	3Q24E	4Q24E	1Q25E	2Q25E	3Q25E	4Q25E	
Revenue	1,503	1,808	1,798	1,916	2,163	2,387	2,252	2,327	2023A
Cost of goods sold	1,196	1,401	1,380	1,438	1,591	1,703	1,601	1,616	2024E
Gross margin	306	407	419	478	572	683	651	710	2025E
Selling, general, and administrative	112	120	125	130	130	130	130	130	
Research and development	166	180	180	190	190	190	190	190	
Other	-	-	-	-	-	-	-	-	
Total Operating Expense	278	300	305	320	320	320	320	320	
Operating Income	28	107	114	158	252	363	331	390	
Interest and Other Income	(120)	(120)	(120)	(120)	(120)	(120)	(120)	(120)	
Income before Taxes	(92)	(13)	(6)	38	132	243	211	270	
Income Tax Expense	(6)	(1)	(0)	3	9	17	15	19	
Net Income	(85)	(12)	(6)	35	123	226	196	251	
Income per Share (Diluted)	-\$0.41	-\$0.06	-\$0.03	\$0.17	\$0.55	\$1.02	\$0.88	\$1.13	
Average Shares Outstanding (Diluted)	206	206	206	206	222	222	222	222	
Non-GAAP cost of goods sold	1,187	1,391	1,370	1,428	1,582	1,694	1,591	1,607	
Non-GAAP gross margin	316	416	428	488	581	693	661	720	
GM%	21.0%	23.0%	23.8%	25.5%	26.9%	29.0%	29.3%	30.9%	
Non-GAAP operating expense	258	270	275	290	290	290	290	290	
Non-GAAP operating income	58	146	153	198	291	403	371	430	
OM%	3.9%	8.1%	8.5%	10.3%	13.5%	16.9%	16.5%	18.5%	
Total non-GAAP charges	29	39	39	39	39	39	39	39	
Non-GAAP net income	(56)	27	34	75	162	266	236	291	
Non-GAAP Income per Share (Diluted)	-\$0.27	\$0.13	\$0.16	\$0.36	\$0.78	\$1.28	\$1.14	\$1.40	
Non-GAAP Average Shares Outstanding (Diluted)	207	207	207	207	207	207	207	207	
BALANCE SHEET									
	1Q24E	2Q24E	3Q24E	4Q24E	1Q25E	2Q25E	3Q25E	4Q25E	
Cash and cash equivalents	434	16	(495)	(988)	(1,411)	(1,643)	(1,897)	(2,100)	2023A
Accounts receivable, net	900	900	900	1,000	1,000	1,000	1,000	1,000	2024E
Inventories	1,000	1,000	1,100	1,100	1,200	1,200	1,200	1,200	2025E
Other current assets	300	300	300	300	300	300	300	300	
Total current assets	2,634	2,216	1,805	1,412	1,089	857	603	400	
Non-current assets:									
Property, plant and equipment, net	1,402	1,375	1,348	1,345	1,359	1,385	1,403	1,426	
Investment in debt security	-	-	-	-	-	-	-	-	
Goodwill	1,237	1,237	1,237	1,237	1,237	1,237	1,237	1,237	
Other intangible assets, net	-	-	-	-	-	-	-	-	
Other non-current assets	1,708	1,708	1,708	1,708	1,708	1,708	1,708	1,708	
Total assets	6,981	6,537	6,099	5,702	5,393	5,187	4,951	4,771	
Current liabilities:									
Accounts payable	1,603	1,603	1,603	1,603	1,603	1,603	1,603	1,603	
Accrued expenses	926	926	926	926	926	926	926	926	
Current portion of long-term debt	63	63	63	63	63	63	63	63	
Total current liabilities	2,592	2,592	2,592	2,592	2,592	2,592	2,592	2,592	
Non-current liabilities:									
Long-term debt	5,388	5,388	5,388	5,388	5,388	5,388	5,388	5,388	
Other liabilities	492	492	492	492	492	492	492	492	
Total liabilities	8,472	8,472	8,472	8,472	8,472	8,472	8,472	8,472	
Net Debt	5,017	5,435	5,946	6,439	6,862	7,094	7,348	7,551	
CASH FLOW									
CASH FLOW (3 MONTHS)									
	1Q24E	2Q24E	3Q24E	4Q24E	1Q25E	2Q25E	3Q25E	4Q25E	
Net cash provided by operating activities	(412)	(200)	(294)	(253)	(170)	33	3	58	2023A
Net cash used in investing activities	205	(72)	(72)	(96)	(108)	(119)	(113)	(116)	2024E
Net cash used in financing activities	(145)	(145)	(145)	(145)	(145)	(145)	(145)	(145)	2025E

Source: Thomson Reuters, company reports and Wedbush Securities Inc., estimates

WDC: Income Statement and Other Selected Financials

	Sep-22 1QA	Dec-22 2QA	Apr-23 3QA	Jun-23 4QA	2023 FYA	Sep-23 1QE	Dec-23 2QE	Apr-24 3QE	Jun-24 4QE	2024 FYE	Sep-24 1QE	Dec-24 2QE	Apr-25 3QE	Jun-25 4QE	2025 FYE
Revenue	3,736	3,107	2,803	2,672	12,318	2,725	3,152	3,213	3,539	12,629	4,423	5,170	5,216	5,504	20,313
Cost of Goods Sold	2,755	2,579	2,517	2,580	10,431	2,620	2,839	2,754	2,887	11,100	3,257	3,482	3,323	3,484	13,546
Gross Profit	981	528	286	92	1,887	105	313	459	653	1,529	1,166	1,688	1,893	2,020	6,767
Operating Expenses															
Selling, General, and Administrative	247	250	242	231	970	235	240	250	260	985	260	260	260	260	1,040
Research and Development	552	523	476	458	2,009	450	450	455	500	1,855	550	555	555	560	2,220
Other	24	76	40	53	-	-	-	-	50	-	-	-	-	50	-
Total Operating Expense	823	849	758	742	3,172	685	690	705	810	2,890	810	815	815	870	3,310
Operating Income	158	(321)	(472)	(650)	(1,285)	(580)	(377)	(246)	(157)	(1,361)	356	873	1,078	1,150	3,457
Interest and Other Income	(74)	(64)	(57)	(80)	(275)	(80)	(80)	(80)	(80)	(320)	(80)	(80)	(80)	(80)	(320)
Income before Taxes	84	(385)	(529)	(730)	(1,560)	(660)	(457)	(326)	(237)	(1,681)	276	793	998	1,070	3,137
Income Tax Expense	57	61	43	(15)	146	60	60	60	60	240	53	131	162	173	519
Net Income	27	(446)	(581)	(730)	(1,730)	(720)	(517)	(386)	(297)	(1,921)	222	662	836	898	2,618
ProForma Results															
Revenue	3,736	3,107	2,803	2,672	12,318	2,725	3,152	3,213	3,539	12,629	4,423	5,170	5,216	5,504	20,313
Cost of Goods Sold	2,741	2,567	2,505	2,568	10,381	2,560	2,779	2,694	2,827	10,860	3,197	3,422	3,263	3,424	13,306
Gross Profit	996	540	298	104	1,937	165	373	519	713	1,769	1,226	1,748	1,953	2,080	7,007
Operating Expenses	689	659	602	582	2,532	580	590	600	610	2,380	660	660	660	660	2,640
Operating Income	307	(119)	(304)	(478)	(595)	(415)	(217)	(81)	103	(611)	566	1,088	1,293	1,420	4,367
Net Income	64	(135)	(436)	(86)	(593)	(555)	(252)	(137)	19	(925)	389	857	1,031	1,139	3,415
EPS	\$ 0.20	\$ (0.42)	\$ (1.37)	\$ (0.27)	\$ (1.86)	\$ (1.72)	\$ (0.78)	\$ (0.42)	\$ 0.06	\$ (2.85)	\$ 1.19	\$ 2.61	\$ 3.13	\$ 3.45	\$ 10.40
Diluted Shares	319	318	319	321	319	323	324	325	326	325	327	328	329	330	329
ProForma Margins															
Gross Margin	26.6%	17.4%	10.6%	3.9%	15.7%	6.0%	11.8%	16.1%	20.1%	14.0%	27.7%	33.8%	37.4%	37.8%	34.5%
Operating Margin	8.2%	-3.8%	-10.9%	-17.9%	-4.8%	-15.2%	-6.9%	-2.5%	2.9%	-4.8%	12.8%	21.0%	24.8%	25.8%	21.5%
Net Margin	1.7%	-4.3%	-15.6%	-3.2%	-4.8%	-20.4%	-8.0%	-4.3%	0.5%	-7.3%	8.8%	16.6%	19.8%	20.7%	16.8%
Year on Year Growth															
Revenue	-26%	-36%	-36%	-41%	-34%	-27%	1%	15%	32%	3%	62%	64%	62%	56%	61%
Gross Profit	-42%	-67%	-79%	-93%	-69%	-83%	-31%	74%	586%	-9%	645%	368%	276%	192%	296%
Opex	-9%	-11%	-19%	-23%	-16%	-16%	-10%	0%	5%	-6%	14%	12%	10%	8%	11%
Operating Income	-68%	-113%	-147%	-168%	-119%	-235%	NA	NA	NA	NA	NA	NA	NA	1283%	NA
Net Income	-92%	-119%	-184%	-115%	-123%	-968%	NA	NA	NA	NA	NA	NA	NA	5798%	NA
Sequential Growth															
Revenue	-17%	-17%	-10%	-5%		2%	16%	2%	10%		25%	17%	1%	6%	
Gross Profit	-32%	-46%	-45%	-65%		58%	127%	39%	37%		72%	43%	12%	7%	
Operating Expenses	-9%	-4%	-9%	-3%		0%	2%	2%	2%		8%	0%	0%	0%	
Operating Income	-56%	-139%	156%	57%		-13%	-48%	-63%	-227%		451%	92%	19%	10%	
Net Income	-89%	-311%	223%	-80%		546%	-55%	-46%	-114%		1911%	120%	20%	10%	
Other															
Net Cash	(5,022)	(5,200)	(4,853)	(5,047)	(5,047)	(5,456)	(5,662)	(5,737)	(5,724)	(5,724)	(5,490)	(4,818)	(3,970)	(3,062)	(3,062)

Source: Thomson Reuters, company reports and Wedbush Securities Inc., estimates

HARDWARE

TICKER	COMPANY NAME	WEDB RATING	PRICES	WEDB TP\$	UP/DNSIDE %	MKT CAP\$B	EV\$B	WEDB EPS EST				WEDB REV EST \$M				WEDB P/E				WEDB EV/SALES			
								2023E	2024E	2025E	2026E	2023E	2024E	2025E	2026E	2023E	2024E	2025E	2026E	2023E	2024E	2025E	2026E
2330	Taiwan Semiconductor Manufacturing Co Ltd	O	\$544.00	\$700.00	29%	14,090.5	13,520.1	\$31.71	\$37.68	\$47.50	-	2,150,920	2,604,200	3,065,490	-	16.4x	13.8x	11.0x	-	6.3x	5.2x	4.4x	-
AMD	Advanced Micro Devices Inc	O	\$100.01	\$155.00	55%	164.5	160.7	\$2.70	\$4.25	\$5.13	-	\$22,609	\$26,916	\$29,637	-	36.2x	23.0x	19.0x	-	7.0x	5.9x	5.3x	-
AXTI	AXT Inc	O	\$2.25	\$6.00	167%	0.1	0.2	(\$0.38)	(\$0.01)	\$0.40	-	\$76	\$106	\$137	-	-6.4x	-244.2x	6.1x	-	1.4x	1.0x	0.8x	-
DBD	Diebold Nixdorf Inc	N	\$18.15	\$20.00	10%	0.7	1.8	\$1.36	\$4.02	-	-	\$3,787	\$3,857	-	-	23.6x	8.0x	-	-	0.7x	0.7x	-	-
GFS	Globalfoundries Inc	O	\$53.95	\$70.00	30%	30.0	30.0	\$2.19	\$3.39	-	-	\$7,501	\$8,766	-	-	24.6x	15.9x	-	-	4.0x	3.4x	-	-
INTC	Intel Corp	N	\$33.85	\$35.00	3%	146.2	174.5	\$0.65	\$1.95	\$2.96	-	\$52,935	\$61,425	\$68,647	-	61.2x	20.4x	13.4x	-	3.1x	2.7x	2.4x	-
MU	Micron Technology Inc	O	\$66.88	\$80.00	20%	73.8	77.5	(\$4.45)	(\$0.86)	\$11.44	-	\$15,540	\$20,886	\$37,891	-	-15.8x	-81.7x	6.1x	-	5.0x	3.7x	2.0x	-
NTAP	NetApp Inc	N	\$73.27	\$75.00	2%	15.5	14.9	\$5.59	\$5.73	\$6.16	-	\$6,362	\$6,145	\$6,385	-	12.6x	12.3x	11.4x	-	2.3x	2.4x	2.3x	-
NVDA	NVIDIA Corp	O	\$429.75	\$600.00	40%	1022.3	1015.9	\$3.33	\$10.62	\$15.04	\$17.14	\$26,974	\$53,580	\$74,195	\$88,950	128.3x	40.2x	28.4x	24.9x	39.1x	19.7x	14.2x	11.9x
PSTG	Pure Storage Inc	O	\$33.41	\$45.00	35%	10.4	9.3	\$1.42	\$1.45	\$1.80	-	\$2,753	\$2,973	\$3,522	-	21.0x	20.6x	16.6x	-	3.4x	3.1x	2.6x	-
SIMO	Silicon Motion Technology Corp	O	\$54.84	\$85.00	55%	1.8	1.6	\$1.94	\$4.37	\$5.30	-	\$606	\$778	\$828	-	24.4x	10.8x	8.9x	-	2.6x	2.0x	1.9x	-
SMCI	Super Micro Computer Inc	N	\$254.89	\$250.00	-2%	13.2	13.0	\$11.82	\$16.08	\$18.61	-	\$7,123	\$10,011	\$12,176	-	21.3x	15.7x	13.5x	-	1.9x	1.3x	1.1x	-
STX	Seagate Technology Holdings PLC	N	\$65.25	\$60.00	-8%	13.9	18.5	\$0.19	\$0.39	\$4.61	-	\$7,359	\$7,024	\$9,128	-	462.0x	226.6x	19.0x	-	2.5x	2.6x	2.0x	-
2303	United Microelectronics Corp	O	\$48.60	\$57.00	17%	606.9	493.0	\$4.61	\$5.11	-	-	\$228,460	\$279,980	-	-	8.5x	7.7x	-	-	2.2x	1.8x	-	-
WDC	Western Digital Corp	O	\$41.81	\$60.00	44%	13.9	19.8	(\$1.86)	(\$2.85)	\$10.40	-	\$12,318	\$12,629	\$20,313	-	-30.9x	-20.2x	5.5x	-	1.5x	1.5x	0.9x	-

TICKER	COMPANY NAME	MEAN REC	PRICES	MEAN TP\$	UP/DNSIDE %	MKT CAP\$B	EV\$B	MEAN EPS EST				MEAN REV EST \$M				MEAN P/E				MEAN EV/SALES			
								2023E	2024E	2025E	2026E	2023E	2024E	2025E	2026E	2023E	2024E	2025E	2026E	2023E	2024E	2025E	2026E
2330	Taiwan Semiconductor Manufacturing Co Ltd	O	\$544.00	\$657.98	21%	14,090.5	13,520.1	\$31.62	\$37.28	\$45.82	\$45.08	\$2,150,107	\$2,603,793	\$3,090,640	\$3,247,000	16.5x	14.0x	11.4x	11.5x	6.3x	5.2x	4.4x	4.2x
AMD	Advanced Micro Devices Inc	O	\$100.01	\$136.90	37%	164.5	160.7	\$2.76	\$4.17	\$5.37	\$6.73	\$22,787	\$27,530	\$32,140	\$35,256	35.4x	23.4x	18.2x	14.5x	6.9x	5.7x	4.9x	4.5x
AXTI	AXT Inc	N	\$2.25	\$4.46	98%	0.1	0.2	(\$0.45)	(\$0.12)	\$0.32	-	\$76	\$99	\$137	-	-5.4x	-20.3x	7.6x	-	1.4x	1.1x	0.8x	-
DBD	Diebold Nixdorf Inc	N	\$18.15	\$22.50	24%	0.7	1.8	\$1.16	\$3.81	-	-	\$3,768	\$3,855	-	-	27.7x	8.4x	-	-	0.7x	0.7x	-	-
GFS	Globalfoundries Inc	O	\$53.95	\$71.64	33%	30.0	30.0	\$2.08	\$2.70	\$3.37	-	\$7,422	\$8,239	\$9,090	-	25.9x	20.0x	16.0x	-	4.0x	3.6x	3.3x	-
INTC	Intel Corp	N	\$33.85	\$35.62	5%	146.2	174.5	\$0.62	\$1.73	\$2.42	\$3.39	\$52,521	\$58,741	\$63,902	\$70,081	63.8x	23.0x	16.4x	11.7x	3.2x	2.8x	2.6x	2.4x
MU	Micron Technology Inc	N	\$66.88	\$78.49	17%	73.8	77.5	(\$4.45)	(\$1.63)	\$5.35	\$7.75	\$15,540	\$20,916	\$30,425	\$33,174	-15.8x	-43.2x	13.1x	9.1x	5.0x	3.7x	2.5x	2.3x
NTAP	NetApp Inc	N	\$73.27	\$80.67	10%	15.5	14.9	\$5.59	\$5.73	\$6.16	\$6.82	\$6,362	\$6,143	\$6,413	\$6,808	12.6x	12.3x	11.4x	10.3x	2.3x	2.4x	2.3x	2.2x
NVDA	NVIDIA Corp	O	\$429.75	\$630.06	47%	1022.3	1015.9	\$3.34	\$10.84	\$17.10	\$19.99	\$26,974	\$54,846	\$82,674	\$96,787	127.9x	39.4x	25.0x	21.4x	39.1x	19.2x	12.8x	10.9x
PSTG	Pure Storage Inc	O	\$33.41	\$44.00	32%	10.4	9.3	\$1.41	\$1.40	\$1.67	\$1.46	\$2,753	\$2,959	\$3,405	\$3,837	21.2x	21.3x	17.9x	20.4x	3.4x	3.1x	2.7x	2.4x
SIMO	Silicon Motion Technology Corp	N	\$54.84	\$76.00	39%	1.8	1.6	\$1.97	\$3.71	\$5.05	-	\$611	\$747	\$871	-	24.0x	12.7x	9.4x	-	2.6x	2.1x	1.8x	-
SMCI	Super Micro Computer Inc	N	\$254.89	\$354.33	39%	13.2	13.0	\$11.81	\$16.97	\$18.58	-	\$7,123	\$10,100	\$11,362	\$13,675	21.3x	14.9x	13.6x	-	1.9x	1.3x	1.2x	1.0x
STX	Seagate Technology Holdings PLC	N	\$65.25	\$64.00	-2%	13.9	18.5	\$0.19	\$0.63	\$4.27	\$5.39	\$7,384	\$6,684	\$8,437	\$8,940	462.0x	139.2x	20.6x	16.3x	2.5x	2.7x	2.2x	2.0x
2303	United Microelectronics Corp	N	\$48.60	\$53.31	10%	606.9	493.0	\$4.58	\$4.67	\$5.26	\$5.00	\$222,985	\$253,035	\$288,904	\$324,375	8.6x	8.4x	7.5x	7.9x	2.2x	1.9x	1.7x	1.5x
WDC	Western Digital Corp	N	\$41.81	\$47.84	14%	13.9	19.8	(\$3.59)	(\$4.06)	\$3.48	\$5.89	\$12,318	\$12,108	\$16,051	\$19,156	-16.0x	-14.2x	16.5x	9.8x	1.5x	1.5x	1.2x	1.0x

Source: Thomson Reuters & Wedbush Securities, Inc. estimates; Priced: 10/23/2023

* All numbers for 2330.TW and 2303.TW in NT\$

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VALUATION

2330	We arrive at our target price by applying a PE multiple of ~14X to our FY2025 EPS estimate (plus net cash).
AMD	We arrive at our target price by applying a PE multiple of ~30X to our FY2025 EPS estimate (plus net cash).
AXTI	We arrive at our target price by applying a PE multiple of ~15X to our FY2025 EPS estimate (plus net cash).
DBD	We arrive at our target price by applying a PE multiple of ~10X to our FY2024 EPS estimate (plus net debt).
GFS	We arrive at our target price by applying a PE multiple of ~20X to our FY2024 EPS estimate (plus net cash).
INTC	We arrive at our target price by applying a multiple of ~13X to our FY2025 (net debt) outlook.
MU	We arrive at our target price by applying a PE multiple of ~7X to our FY2025 (plus net debt) outlook.
NTAP	We arrive at our target price by applying a PE multiple of ~12X to our FY2025 estimates and adding net cash.
NVDA	We arrive at our target price by applying a PE multiple of ~35X to our FY2026 EPS estimate (plus net cash).
PSTG	We arrive at our target price by applying a PE multiple of ~23X to our FY2025 estimates (plus net cash).
SIMO	We arrive at our target price by applying a PE multiple of ~12X to our FY2025 estimates + current net cash + assumed damages at least equal to the prior MXL termination fee.
SMCI	We arrive at our target price by applying a PE multiple of ~13X to our FY2025 EPS (net debt).
STX	We arrive at our target price by applying a PE multiple of ~18X to our FY2025 estimate (plus net debt).
2303	We arrive at our target price based on a multiple of ~8X PE using our FY2024 EPS estimate (net cash).
WDC	We arrive at our target price by applying a PE multiple of ~7X to our FY2025 estimate (plus net debt).

RISKS

2330	Economic deterioration and demand destruction related to the pandemic, changes to US Policy, sovereignty risk to Taiwan, risk to the supply chain, and technology risk.
AMD	AMD misexecutes, customers choose other vendors, competition increases (e.g., pricing, design), TSMC is constrained (production), the economy deteriorates.
AXTI	Demand for AXTI products fall; Tongmei fails to IPO; China/US trade risk; market share loss.
DBD	DBD works through (fails to work through) constrained liquidity needs, satisfies (fails to satisfy) debt service, demand for DBD's products rises (falls).
GFS	Economic deterioration and demand destruction related to the pandemic, changes to government policy, risk to the supply chain, and technology risk.
INTC	Upside risk: INTC executes on stated initiatives, competition misexecutes, tailwinds continue to boost revenues and GM. Downside risk: misexecution, recovery elongates
MU	MU misexecutes, future acquisitions dilute value, Chinese vendors successfully enter NAND or DRAM markets, US/China trade war.
NTAP	Upside risks: Successful product innovation (software), competitor missteps and accelerated TAM growth. Downside risks: Cloud cannibalization, normalized enterprise spend, increasing competition and misexecution.
NVDA	DC weakens; AI driven demand softens; gaming demand softens, misexecution, customers reduce spending, competition gains share, US/China tensions increase.
PSTG	Downside risks: Cloud cannibalization, normalization/decline in enterprise spend, increasing competition and misexecution.
SIMO	MXL could successfully terminate its proposed acquisition of SIMO without compensating SIMO, misexecution.
SMCI	SMCI out executes/innovates (misexecutes/fails to innovate) vs. peers, demand increases (decreases).
STX	Upside risk: STX executes on stated initiatives and particularly HAMR, pricing increases, demand increases. Downside risks: misexecutes, pricing declines, demand decreases, US/China tensions increase.
2303	Economic deterioration and demand destruction related to the pandemic, changes to US Policy, sovereignty risk to Taiwan, risk to the supply chain, and technology risk.
WDC	WDC misexecutes, customers choose other vendors, competition increases (e.g., pricing, design), the economy deteriorates.

Risks to the Attainment of Our Price Targets and Ratings: Hardware

Shifts in competition, pricing, technology, and macroeconomic conditions.
Changes in hyperscale spending tied to shifts in growth or increased optimization.
Unforeseen events affecting production capacity (power outages, fires, storms, etc.)
Shifts in worldwide trade conditions that lead to macro instability and or close certain markets.
Increased competition from China based manufacturers entering new markets.

Analyst Certification

I, Matt Bryson, certifies that the views expressed in this report accurately reflect my personal opinion and that I have not and will not, directly or indirectly, receive compensation or other payments in connection with my specific recommendations or views contained in this report.

Mentioned Companies

Company	Rating	Price	Target
Seagate Technology Holdings PLC	NEUTRAL	\$65.25	\$60.00
Western Digital	OUTPERFORM	\$41.81	\$60.00

Investment Rating System:

OUTPERFORM: Expect the total return of the stock to outperform relative to the median total return of the analyst's (or the analyst's team) coverage universe over the next 6-12 months.

NEUTRAL: Expect the total return of the stock to perform in-line with the median total return of the analyst's (or the analyst's team) coverage universe over the next 6-12 months.

UNDERPERFORM: Expect the total return of the stock to underperform relative to the median total return of the analyst's (or the analyst's team) coverage universe of the next 6-12 months.

The Investment Ratings are based on the expected performance of a stock (based on anticipated total return to price target) relative to the other stocks in the analyst's coverage universe (or the analyst's team coverage).*

Rating distribution (as of October 24, 2023)	Investment Banking Relationships (as of October 24, 2023)
OUTPERFORM: 60.75%	OUTPERFORM: 4.23%
NEUTRAL: 37.38%	NEUTRAL: 1.25%
UNDERPERFORM: 1.87%	UNDERPERFORM: 0.00%

The Distribution of Ratings is required by FINRA rules; however, WS' stock ratings of Outperform, Neutral, and Underperform most closely conform to Buy, Hold, and Sell, respectively. Please note, however, the definitions are not the same as WS' stock ratings are on a relative basis.

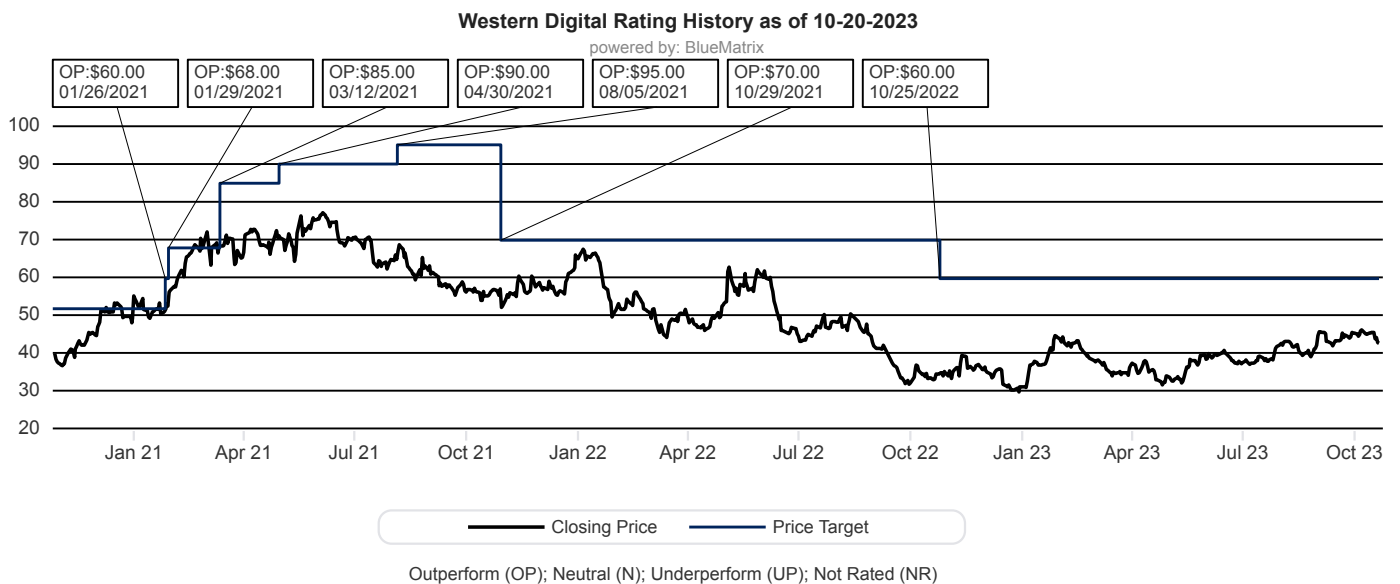
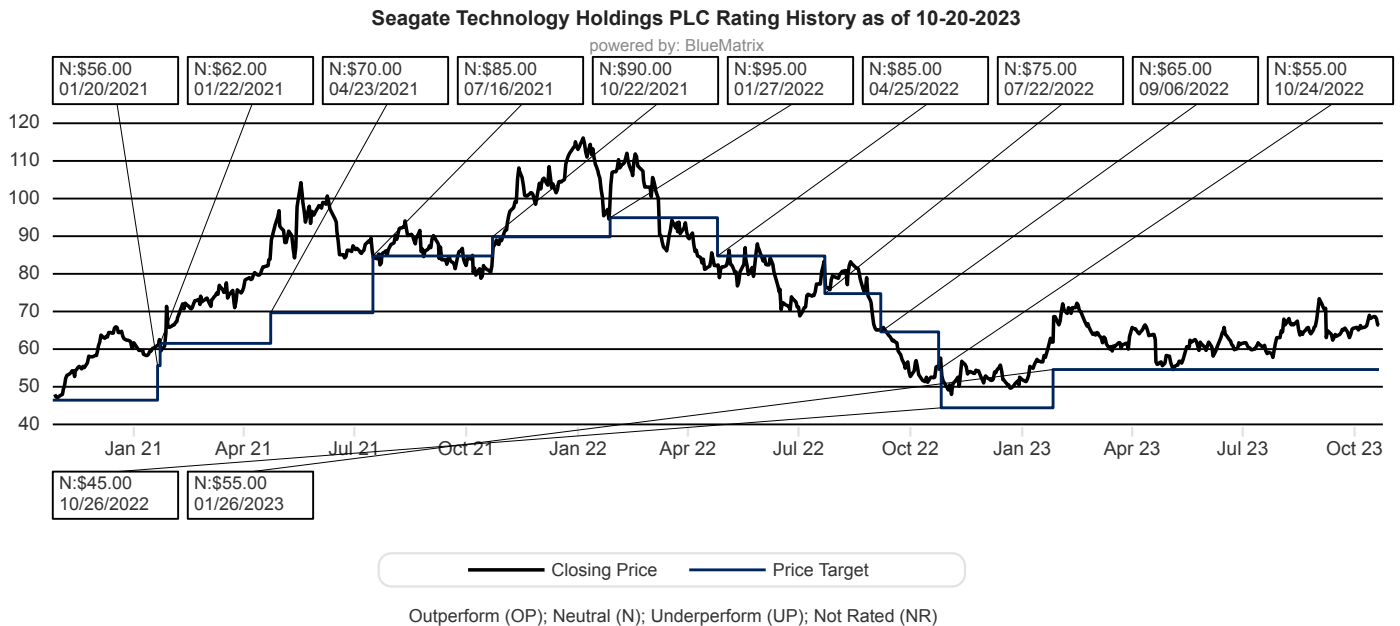
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1. WS makes a market in the securities of Seagate Technology Holdings PLC and Western Digital.

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Wedbush disclosure price charts are updated within the first fifteen days of each new calendar quarter per FINRA regulations. Price charts for companies initiated upon in the current quarter, and rating and target price changes occurring in the current quarter, will not be displayed until the following quarter. Additional information on recommended securities is available on request.

Disclosure information regarding historical ratings and price targets is available: [Research Disclosures](#)

*WS changed its rating system from (Strong Buy/ Buy/ Hold/ Sell) to (Outperform/ Neutral/ Underperform) on July 14, 2009.

Applicable disclosure information is also available upon request by contacting the Research Department at (212) 833-1375, by email to leslie.lippai@wedbush.com. You may also submit a written request to the following: Wedbush Securities, Attn: Research Department, 142 W 57th Street, New York, NY 10019.

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