

October 25, 2023

## Hardware

### ***CQ3'23 Compute Preview - Better Near-Term Setup for Intel***

Analysts

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CQ3 saw improvement in PC compute fundamentals, which should carry over into CQ4; however we would note that weak standard server builds remain a meaningful headwind that likely continues to weigh on compute guidance:

- Better than expected PC shipments (particularly consumer oriented SKUs) combined with normalization of PC inventories should have created incremental demand for client CPUs and GPUs.
- Server demand remained challenged, though an increase in AI builds towards the end of CQ3 and further CQ4 improvement, should help at the margin.
- Net, we see a mixed bag in the near-term (favoring INTC due to greater PC exposure and more modest expectations). However, we see a more constructive environment emerging in 2024 (particularly in the 2H) that should benefit both vendors. Specifically, we expect a PC refresh (driven by a 3 year replacement cycle, Windows 12, and new SKUs supporting AI) and a normalization of CSP standard server builds will combine to lift compute demand.

#### **INTC (N: TP\$35) - Reports - Thu, 10/26 AMC**

- Intel management indicated intra-quarter that the company was tracking ahead of its guidance given: 1) Better than expected DCAI sales (albeit with revenues still likely down Q/Q), and 2) Improved PC revenues.
- And, we would expect both areas likely build off CQ3 numbers given:
  - Some signs of generally better than expected consumer demand trends which should continue to boost PC builds in CQ4, and
  - Some year-end bump in enterprise IT spend (even if the overall standard server market remains weak), combined with strengthening AI builds.
- Net, even with INTC tending to guide conservatively, we see potential for upside to consensus (even if Intel's outlook isn't as robust as our high expectations).
- However, the real question remains: Will INTC execute on its forward roadmap for process transitions? We see this result as integral to the company restoring competitiveness in servers, maintaining its positioning in PCs, and starting a foundry business. We still remain uncertain on this front as we continue to look for evidence suggesting new products will ramp successfully.

#### **AMD (O: TP\$155) - Reports - Tue, 10/31 AMC**

- AMD's CQ3 estimates should be achievable, particularly assuming some benefit from improving consumer PC shipments.
- The risk rather, in our view, is CQ4 (and perhaps CQ1). The ramp of El Capitan, should provide AMD some momentum, however, we are less clear that AMD can hit elevated expectations which we believe will eventually require better server CPU shipments in light of continued weakness in CSP spend.
- Having said this, we exited the past few weeks more confident around AMD's position with MI300, and believe AMD is particularly well positioned to thrive in 2H'24 as its AI revenues ramp at the same time CSP server spend likely normalizes and a PC refresh cycle commences.
- Net, while we are less certain around near-term results, we are reiterating our OUTPERFORM view given our more positive outlook for AMD moving through 2024 into 2025.

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## INTC (N: TP\$35) - Reports - Thu, 10/26 AMC

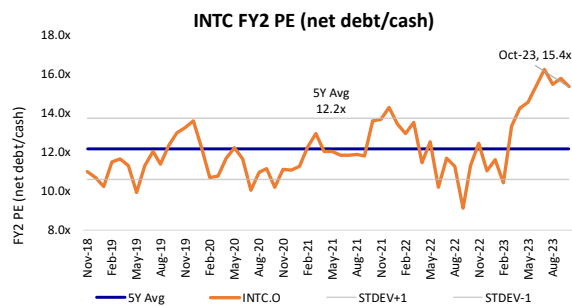
We arrive at our target price by applying a multiple of ~13X to our FY2025 outlook (net debt).

Figure 1: INTC Wedbush vs. Consensus Estimates

INTC \$M								
	Outlook Sep-23	Wedbush 3Q23E	Consensus 3Q23A	Var	2Q23A	Q/Q %Δ	3Q22A	Y/Y %Δ
Non-GAAP Diluted - EPS	\$0.20	\$0.20	\$0.22	-\$0.02	\$0.13	\$0.07	\$0.59	-\$0.39
Revenue (\$M)	\$13,400	\$13,459	\$13,526	0%	\$12,949	4%	\$15,338	-12%
Gross Margin %	43.0%	43.0%	42.7%	30bps	39.8%	320bps	45.9%	-288bps
Operating Margin %		7.1%	5.5%	161bps	3.5%	358bps	10.8%	-369bps
Capex		\$3,000	\$5,337	-44%	\$5,888	-49%	\$7,299	-59%
<b>Segment Revenues</b>								
CCG		7,390	7,380	0%	6,780	9%	8,124	-9%
DCAI		3,804	3,982	-4%	4,004	-5%	4,209	-10%
NEX		1,364	1,365	0%	1,364	0%	2,266	-40%
MBLY		545	515	6%	454	20%	450	21%
IFS		241	235	3%	232	4%	171	41%
Other		115	115	0%	115	0%	67	72%

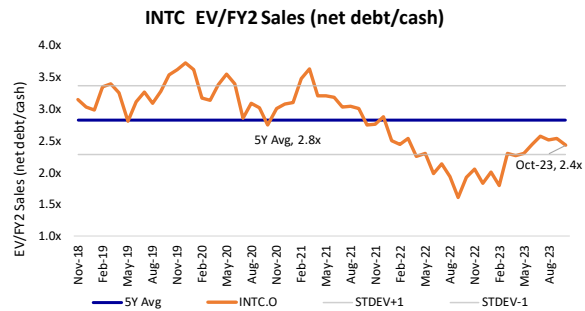
Source: Company reports, Thomson Reuters and Wedbush Securities, Inc. estimates

Figure 2: INTC Historical Multiples



Source: Thomson Reuters & Wedbush Securities, Inc.

Priced: 10/24/23



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Priced: 10/24/23

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## AMD (O: TP\$155) - Reports - Tue, 10/31 AMC

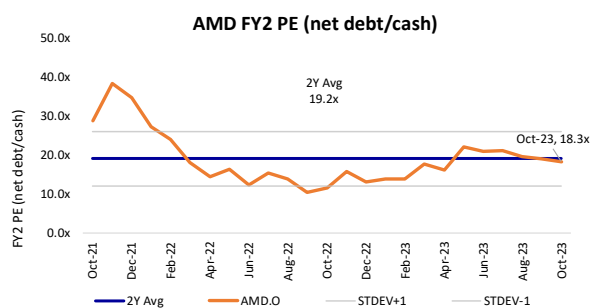
We arrive at our target price by applying a PE multiple of ~30X to our FY2025 EPS estimate (plus net cash).

Figure 3: AMD Wedbush vs. Consensus Estimates

AMD \$M								
	Outlook	Wedbush	Consensus			Q/Q		Y/Y
	Sep-23	3Q23E	3Q23E	Var	2Q23A	%Δ	3Q22A	%Δ
Non-GAAP EPS - Diluted	\$0.77	\$0.68	\$0.68	\$0.00	\$0.58	\$0.10	\$0.67	\$0.01
Revenue (\$M)	\$5,700	\$5,700	\$5,693	0%	\$5,359	6%	\$5,565	2%
Gross margin %	51%	51%	51%	-4bps	50%	129bps	50%	69bps
Operating margin %	22.1%	22.0%	21.6%	38bps	19.9%	205bps	22.7%	-74bps
Capex		\$55	\$55	0%	\$125	-56%	\$55	0%
<b>Segment Revenues</b>								
Data Center		1,609	1,659	-3%	1,321	22%	1,609	0%
Client		1,124	1,206	-7%	998	13%	1,022	10%
Gaming		1,534	1,532	0%	1,581	-3%	1,631	-6%
Embedded		1,433	1,320	9%	1,459	-2%	1,303	10%

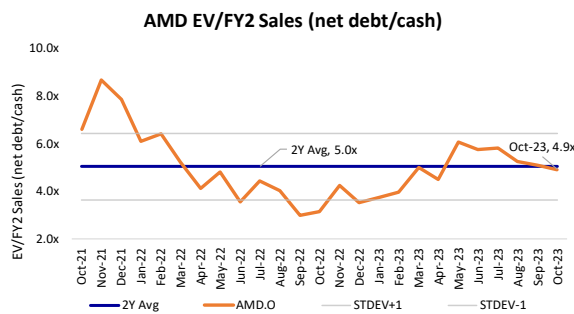
Source: Company reports, Thomson Reuters and Wedbush Securities, Inc. estimates

Figure 4: AMD Historical Multiples



Source: Thomson Reuters & Wedbush Securities, Inc.

Priced: 10/24/23



Source: Thomson Reuters & Wedbush Securities, Inc.

Priced: 10/24/23

Source: Thomson Reuters and Wedbush Securities, Inc. estimates

## INTC: Income Statement and Other Selected Financials

Intel Corp (INTC)																
\$M	1Q23A	2Q23A	3Q23E	4Q23E	1Q24E	2Q24E	3Q24E	4Q24E	1Q25E	2Q25E	3Q25E	4Q25E	2022A	2023E	2024E	2025E
Period End Date	Mar-23	Jul-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	Mar-25	Jun-25	Sep-25	Dec-25	Dec-22	Dec-23	Dec-24	Dec-25
Non-GAAP Diluted - EPS	(\$0.04)	\$0.13	\$0.20	\$0.37	\$0.33	\$0.41	\$0.54	\$0.67	\$0.62	\$0.67	\$0.75	\$0.92	\$1.84	\$0.65	\$1.95	\$2.96
Revenue (\$M)	11,715	12,949	13,459	14,812	14,509	14,848	15,669	16,400	16,153	16,560	17,349	18,585	63,054	52,935	61,425	68,647
Gross Margin %	38.4%	39.8%	43.0%	46.0%	46.0%	48.5%	51.0%	53.0%	52.0%	53.0%	54.0%	55.0%	47.3%	42.0%	49.1%	53.6%
Operating Margin %	-2.5%	3.5%	7.1%	12.0%	11.0%	13.5%	17.0%	20.0%	19.0%	20.0%	21.5%	24.5%	12.6%	5.5%	15.5%	21.4%
SEGMENT REVENUES													2022A	2023E	2024E	2025E
Net Revenue - Non GAAP	11,715	12,949	13,459	14,812	14,509	14,848	15,669	16,400	16,153	16,560	17,349	18,585	63,054	52,935	61,425	68,647
CCG	5,767	6,780	7,390	8,129	7,723	7,723	8,186	8,432	8,094	8,094	8,193	8,591	31,708	28,066	32,063	32,973
DCAI	3,718	4,004	3,804	4,184	4,268	4,481	4,705	4,988	4,888	5,132	5,646	6,210	19,196	15,710	18,442	21,876
NEX	1,489	1,364	1,364	1,500	1,500	1,605	1,718	1,838	1,838	1,939	2,046	2,158	8,873	5,717	6,662	7,981
AXG	0	0	0	0	0	0	0	0	0	0	0	0	837	0	0	0
MBLY	458	454	545	632	632	630	628	686	822	819	817	892	1,869	2,089	2,577	3,350
IFS	118	232	241	251	271	293	316	341	396	459	533	618	895	842	1,221	2,006
Other	165	115	115	115	115	115	115	115	115	115	115	115	196	510	460	460
Segments Q/Q % Δ																
Net Revenue - Non GAAP	-17%	11%	4%	10%	-2%	2%	6%	5%	-2%	3%	5%	7%				
CCG	-13%	18%	+9%	+10%	-5%	+0%	+6%	+3%	-4%	+0%	+1%	+5%				
DCAI	-14%	8%	-5%	+10%	+2%	+5%	+5%	+6%	-2%	+5%	+10%	+10%				
NEX	-28%	-8%	+0%	+10%	+0%	+7%	+7%	+7%	+0%	+6%	+6%	+6%				
AXG			+0%	+0%	+0%	+0%	+0%	+0%	+0%	+0%	+0%	+0%				
MBLY	-19%	-1%	+20%	+16%	+0%	-0%	-0%	+9%	+20%	-0%	-0%	+9%				
IFS	-63%	97%	+4%	+4%	+8%	+8%	+8%	+8%	+16%	+16%	+16%	+16%				
Other	450%	-30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				
INCOME STATEMENT - NON-GAAP (\$M)													2022A	2023E	2024E	2025E
Net revenue	11,715	12,949	13,459	14,812	14,509	14,848	15,669	16,400	16,153	16,560	17,349	18,585	63,054	52,935	61,425	68,647
COGS	7,221	7,795	7,672	7,998	7,835	7,721	7,834	7,872	7,753	7,783	7,981	8,363	33,260	30,686	31,262	31,880
GP%	4.49%	5.15%	5.78%	6.81%	6.67%	7.12%	7.83%	8.52%	8.40%	8.77%	9.36%	10.22%	29.79%	22.24%	30.16%	36.76%
GM%	38.4%	39.8%	43.0%	46.0%	46.0%	48.0%	50.0%	52.0%	52.0%	53.0%	54.0%	55.0%	47.3%	42.0%	49.1%	53.6%
R&D and MG&A	4,788	4,698	4,832	5,036	5,078	5,122	5,171	5,248	5,330	5,465	5,639	5,668	21,879	19,354	20,619	22,102
R&D and MG&A % revs	40.9%	36.3%	35.9%	34.0%	35.0%	34.5%	33.0%	32.0%	33.0%	33.0%	32.5%	30.5%	34.7%	36.6%	33.6%	32.2%
Other expenses	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Other % revs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Opex	4,788	4,698	4,832	5,036	5,078	5,122	5,171	5,248	5,330	5,465	5,639	5,668	21,879	19,354	20,619	22,102
Opex % revs	40.9%	36.3%	35.9%	34.0%	35.0%	34.5%	33.0%	32.0%	33.0%	33.0%	32.5%	30.5%	34.7%	36.6%	33.6%	32.2%
OP%	(294)	456	956	1,777	1,596	2,004	2,664	3,280	3,069	3,312	3,730	4,553	7,915	2,895	9,544	14,664
OM%	-2.5%	3.5%	7.1%	12.0%	11.0%	13.5%	17.0%	20.0%	19.0%	20.0%	21.5%	24.5%	12.6%	5.5%	15.5%	21.4%
Non-op income (expense)	100	0	-	-	-	-	-	-	-	-	-	-	(225)	100	-	-
Pretax income	(194)	629	956	1,777	1,596	2,004	2,664	3,280	3,069	3,312	3,730	4,553	7,913	3,167	9,544	14,664
Provision (benefit) for taxes	(25)	82	124	231	207	261	346	426	399	431	485	592	320	412	1,241	1,906
Tax Rate%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	4.0%	13.0%	13.0%	13.0%
Net income	(169)	547	831	1,546	1,389	1,744	2,317	2,854	2,670	2,881	3,245	3,961	7,593	2,756	8,303	12,758
EPS - Diluted (Non GAAP)	(\$0.04)	\$0.13	\$0.20	\$0.37	\$0.33	\$0.41	\$0.54	\$0.67	\$0.62	\$0.67	\$0.75	\$0.92	\$1.84	\$0.65	\$1.95	\$2.96
S/O - Diluted (Non GAAP)	4,154	4,196	4,208	4,220	4,233	4,245	4,257	4,270	4,282	4,295	4,307	4,320	4,116	4,195	4,251	4,301
Net income (GAAP)	(2,758)	1,481	1,765	2,480	2,323	2,678	3,251	3,788	3,604	3,815	4,179	4,895	8,014	2,969	12,039	16,494
EPS - Diluted (GAAP)	(\$0.66)	\$0.35	\$0.42	\$0.59	\$0.55	\$0.63	\$0.76	\$0.89	\$0.84	\$0.89	\$0.97	\$1.13	\$1.95	\$0.70	\$2.83	\$3.83
Dividend/shr	\$0.365	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$0.125	\$1.460	\$0.740	\$0.500	\$0.500
Dividend payout%	-897.2%	95.9%	63.3%	34.1%	38.1%	30.4%	23.0%	18.7%	20.0%	18.6%	16.6%	13.6%	79.3%	113.2%	25.6%	16.9%
Other																
Capex	(7,413)	(5,888)	(5,888)	(5,888)	(6,625)	(6,625)	(6,625)	(6,625)	(6,625)	(6,625)	(6,625)	(6,625)	(24,844)	(25,077)	(26,500)	(26,500)
D&A	1,901	1,832	2,057	2,193	2,328	2,558	2,791	3,028	3,268	3,508	3,750	5,008	11,128	7,983	10,705	15,534
D&A % PPE	9.4%	8.5%	9.0%	9.5%	10.0%	10.5%	11.0%	11.5%	12.0%	12.5%	13.0%	17.0%	17.6%	9.9%	11.5%	14.3%
Net Cash (Debt)	(16,710)	(18,896)	(16,674)	(14,228)	(14,122)	(13,541)	(12,330)	(10,005)	(6,802)	(3,332)	669	7,544	(7,801)	(14,228)	(10,005)	7,544
BALANCE SHEET (\$M)													2022A	2023E	2024E	2025E
#days	90	93	90	90	90	90	90	90	90	90	90	90	370	363	361	361
Cash and cash equivalents	8,232	8,349	10,571	13,017	13,123	13,704	14,915	17,240	20,443	23,913	27,914	34,789	11,144	13,017	17,240	34,789
Short-term investments	19,302	15,908	15,908	15,908	15,908	15,908	15,908	15,908	15,908	15,908	15,908	15,908	17,194	15,908	15,908	15,908
Trading assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Accounts receivable (WC)	3,847	2,996	3,114	3,427	3,357	3,435	3,625	3,794	3,737	3,831	4,014	4,300	4,133	3,427	3,794	4,300
Inventories (WC)	12,993	11,984	11,794	12,297	12,045	11,870	12,045	12,102	11,920	11,966	12,270	12,857	13,224	12,297	12,102	12,857
Other current assets	3,940	4,119	-	-	-	-	-	-	-	-	-	-	4,712	-	-	-
Total current assets	48,314	43,356	29,593	32,352	32,387	33,048	34,448	36,942	40,088	43,653	47,836	54,997	50,407	32,352	36,942	54,997
Property, plant and equipment, net	85,734	90,945	91,888	92,695	96,991	101,059	104,893	108,490	111,847	114,964	117,839	119,456	80,860	92,695	108,490	119,456
Equity Investments	6,029	5,893	5,893	5,893	5,893	5,893	5,893	5,893	5,893	5,893	5,893	5,893	5,912	5,893	5,893	5,893
Other long-term investments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Goodwill	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591	27,591
Identified intangible assets, net	5,567	5,173	5,173	5,173	5,173	5,173	5,173	5,173	5,173	5,173	5,173	5,173	6,018	5,173	5,173	5,173
Other long-term assets	12,068	12,671	12,671	12,671	12,671	12,671	12,671	12,671	12,671	12,671	12,671	12,671	11,315	12,671	12,671	12,671
Total assets	185,303	185,629	172,808	176,375	180,707	185,434	190,669	196,760	203,263	209,944	217,003	225,780	182,103	176,375	196,760	225,780
Current liabilities:																
Short-term debt	1,437	2,711	2,711	2,711	2,711	2,711	2,711	2,711	2,711	2,711	2,711	2,711	4,367	2,711	2,711	2,711
Accounts payable (WC)	8,083	8,757	8,618	8,985	8,802	8,674	8,801	8,844	8,710	8,744	8,966	9,395	9,595	8,985	8,844	9,395
Accrued compensation and benefits	2,49															

## AMD Income Statement and Other Selected Financials

AMD	2023E				2024E							
	1Q23A	2Q23A	3Q23E	4Q23E	1Q24E	2Q24E	3Q24E	4Q24E	2022A	2023E	2024E	2025E
(\$ millions, except per share amounts)	Apr-23	Jul-23	Sep-23	Dec-23	Mar-24	Jun-24	Sep-24	Dec-24	12/31/22	Dec-23	12/31/24	12/31/25
<b>Non-GAAP EPS - Diluted</b>	<b>\$0.60</b>	<b>\$0.58</b>	<b>\$0.68</b>	<b>\$0.84</b>	<b>\$0.83</b>	<b>\$1.00</b>	<b>\$1.14</b>	<b>\$1.28</b>	<b>\$3.50</b>	<b>\$2.70</b>	<b>\$4.25</b>	<b>\$5.13</b>
Revenue (\$M)	5,353	5,359	5,700	6,197	5,974	6,539	7,031	7,372	23,601	22,609	26,916	29,637
Gross margin %	50%	49.7%	51%	52%	54%	55%	55%	57%	53%	51%	55%	57%
Operating margin %	20.5%	19.9%	22.0%	25.2%	26.4%	28.9%	31.0%	33.1%	26.9%	22.0%	30.0%	33.0%
<b>SEGMENTS</b>	<b>1Q23A</b>	<b>2Q23A</b>	<b>3Q23E</b>	<b>4Q23E</b>	<b>1Q24E</b>	<b>2Q24E</b>	<b>3Q24E</b>	<b>4Q24E</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
<b>Net Revenue - by Segment</b>	<b>5,353</b>	<b>5,359</b>	<b>5,700</b>	<b>6,197</b>	<b>5,974</b>	<b>6,539</b>	<b>7,031</b>	<b>7,372</b>	<b>23,601</b>	<b>22,609</b>	<b>26,916</b>	<b>29,637</b>
Data Center	1,295	1,321	1,609	2,165	2,206	2,313	2,648	2,913	6,043	6,390	10,080	12,295
Client	739	998	1,124	1,309	1,145	1,298	1,405	1,637	6,201	4,171	5,485	5,759
Gaming	1,757	1,581	1,534	1,326	1,216	1,470	1,473	1,272	6,805	6,198	5,431	5,184
Embedded	1,562	1,459	1,433	1,397	1,406	1,459	1,505	1,551	4,552	5,851	5,920	6,398
<b>Segments Q/Q % Δ</b>												
<b>Net Revenue - by Segment</b>	<b>-4%</b>	<b>0%</b>	<b>6%</b>	<b>9%</b>	<b>-4%</b>	<b>9%</b>	<b>8%</b>	<b>5%</b>				
Data Center	-22%	2%	22%	35%	2%	5%	14%	10%				
Client	-18%	35%	13%	16%	-13%	13%	8%	16%				
Gaming	7%	-10%	-3%	-14%	-8%	21%	0%	-14%				
Embedded	12%	-7%	-2%	-3%	1%	4%	3%	3%				
<b>Segments Y/Y % Δ</b>												
<b>Net Revenue - by Segment</b>	<b>-9%</b>	<b>-18%</b>	<b>2%</b>	<b>11%</b>	<b>12%</b>	<b>22%</b>	<b>23%</b>	<b>19%</b>	44%	-4%	19%	10%
Data Center	0%	-11%	0%	31%	70%	75%	65%	35%	64%	6%	58%	22%
Client	-65%	-54%	10%	45%	55%	30%	25%	25%	-10%	-33%	32%	5%
Gaming	-6%	-4%	-6%	-19%	-31%	-7%	-4%	-4%	21%	-9%	-12%	-5%
Embedded	163%	16%	10%	0%	-10%	0%	5%	11%	1750%	29%	1%	8%
<b>Income Statement - NON GAAP</b>	<b>1Q23A</b>	<b>2Q23A</b>	<b>3Q23E</b>	<b>4Q23E</b>	<b>1Q24E</b>	<b>2Q24E</b>	<b>3Q24E</b>	<b>4Q24E</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
Revenue	5,353	5,360	5,700	6,197	5,974	6,539	7,031	7,372	23,601	22,610	26,916	29,637
COGS	2,678	2,695	2,794	2,965	2,736	2,949	3,131	3,199	11,328	11,132	12,015	12,791
Gross Profit\$	2,675	2,665	2,906	3,233	3,238	3,591	3,900	4,172	12,273	11,478	14,901	16,846
Opex	1,587	1,605	1,653	1,673	1,661	1,700	1,723	1,732	6,030	6,518	6,816	7,071
Opex % Revenue	30%	30%	29%	27%	28%	26%	25%	24%	26%	29%	25%	24%
Operating Profit\$	1,098	1,068	1,253	1,559	1,577	1,890	2,177	2,440	6,345	4,978	8,085	9,775
Nonoperating income (expense)	3	18	18	18	18	18	18	18	90	57	72	72
Pretax income (loss)	1,101	1,086	1,271	1,577	1,595	1,908	2,195	2,458	6,435	5,035	8,157	9,847
Income tax provision (benefit)	132	144	165	205	239	286	329	369	945	646	1,224	1,477
Equity in loss (income) of investee	1	6	0	0	0	0	0	0	14	7	0	0
Net Income\$	970	948	1,105	1,372	1,356	1,622	1,866	2,089	5,504	4,396	6,934	8,370
EPS - Diluted - Operating	\$ 0.60	\$ 0.58	\$ 0.68	\$ 0.84	\$ 0.83	\$ 1.00	\$ 1.14	\$ 1.28	\$ 3.50	\$ 2.70	\$ 4.25	\$ 5.13
S/O - Diluted	1,618	1,627	1,625	1,630	1,630	1,630	1,630	1,630	1,571	1,625	1,630	1,630
<b>Balance Sheet - GAAP</b>	<b>1Q23A</b>	<b>2Q23A</b>	<b>3Q23E</b>	<b>4Q23E</b>	<b>1Q24E</b>	<b>2Q24E</b>	<b>3Q24E</b>	<b>4Q24E</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
Cash and cash equivalents	3,825	3,841							4,835	-	-	
Marketable securities	2,114	2,444							4,835	-	-	
<b>Cash and short term investments</b>	<b>5,939</b>	<b>6,285</b>	<b>12,248</b>	<b>13,135</b>	<b>13,733</b>	<b>14,613</b>	<b>15,780</b>	<b>17,150</b>	<b>5,855</b>	<b>13,135</b>	<b>17,150</b>	<b>22,550</b>
Accounts receivable	4,040	4,312	1,690	1,690	1,690	1,690	1,690	1,690	4,126	1,690	1,690	1,690
Inventories, net	4,235	4,567	1,532	1,532	1,532	1,532	1,532	1,532	3,771	1,532	1,532	1,532
Prepayment and receivables - related parties	2	2	2	2	2	2	2	2	2	2	2	2
Prepaid expenses and other current assets	1,442	1,339	1,339	1,339	1,339	1,339	1,339	1,339	1,265	1,339	1,339	1,339
<b>Total current assets</b>	<b>15,658</b>	<b>16,505</b>	<b>16,811</b>	<b>17,698</b>	<b>18,295</b>	<b>19,176</b>	<b>20,343</b>	<b>21,713</b>	<b>15,019</b>	<b>17,698</b>	<b>21,713</b>	<b>27,113</b>
Property, plant and equipment, net	1,500	1,541	1,534	1,526	1,519	1,511	1,504	1,497	1,513	1,526	1,497	1,467
Operating lease right-of-use assets	447	461	461	461	461	461	461	461	460	461	461	461
Goodwill	24,177	24,177	24,177	24,177	24,177	24,177	24,177	24,177	24,177	24,177	24,177	24,177
Acquisition related intangible assets, net	23,291	22,598	22,598	22,598	22,598	22,598	22,598	22,598	24,118	22,598	22,598	22,598
<b>Intangibles, net</b>	<b>47,468</b>	<b>46,775</b>	<b>46,775</b>	<b>46,775</b>	<b>46,775</b>	<b>46,775</b>	<b>46,775</b>	<b>46,775</b>	<b>48,295</b>	<b>46,775</b>	<b>46,775</b>	<b>46,775</b>
Investment: equity method	84	90	90	90	90	90	90	90	83	90	90	90
Other assets - Noncurrent	2,477	2,595	437	437	437	437	437	437	2,210	437	437	437
<b>Total noncurrent assets</b>	<b>51,976</b>	<b>51,462</b>	<b>49,297</b>	<b>49,289</b>	<b>49,282</b>	<b>49,274</b>	<b>49,267</b>	<b>49,260</b>	<b>52,561</b>	<b>49,289</b>	<b>49,260</b>	<b>49,230</b>
<b>Total assets</b>	<b>67,634</b>	<b>67,967</b>	<b>66,108</b>	<b>66,987</b>	<b>67,577</b>	<b>68,451</b>	<b>69,610</b>	<b>70,972</b>	<b>67,580</b>	<b>66,987</b>	<b>70,972</b>	<b>76,343</b>
Short-term debt	-	-	-	-	-	-	-	-	-	-	-	-
Accounts payable	2,518	2,779	2,779	2,779	2,779	2,779	2,779	2,779	2,493	2,779	2,779	2,779
Payables to related parties	353	313	313	313	313	313	313	313	463	313	313	313
Accrued liabilities	3,167	2,971	2,971	2,971	2,971	2,971	2,971	2,971	3,077	2,971	2,971	2,971
Current portion of LT debt		753										
Other liabilities - Current	539	756	756	756	756	756	756	756	336	756	756	756
<b>Total current liabilities</b>	<b>6,577</b>	<b>7,572</b>	<b>6,819</b>	<b>6,819</b>	<b>6,819</b>	<b>6,819</b>	<b>6,819</b>	<b>6,819</b>	<b>6,369</b>	<b>6,819</b>	<b>6,819</b>	<b>6,819</b>
Long-term debt	2,467	1,714	1,714	1,714	1,714	1,714	1,714	1,714	2,467	1,714	1,714	1,714
Long-term operating lease liabilities	381	393	393	393	393	393	393	393	396	393	393	393
Other liabilities - Noncurrent	3,515	3,152	3,152	3,152	3,152	3,152	3,152	3,152	3,598	3,152	3,152	3,152
<b>Total noncurrent liabilities</b>	<b>6,363</b>	<b>5,259</b>	<b>5,259</b>	<b>5,259</b>	<b>5,259</b>	<b>5,259</b>	<b>5,259</b>	<b>5,259</b>	<b>6,461</b>	<b>5,259</b>	<b>5,259</b>	<b>5,259</b>
<b>Total liabilities</b>	<b>12,940</b>	<b>12,831</b>	<b>12,078</b>	<b>12,078</b>	<b>12,078</b>	<b>12,078</b>	<b>12,078</b>	<b>12,078</b>	<b>12,830</b>	<b>12,078</b>	<b>12,078</b>	<b>12,078</b>
<b>Total stockholders' equity</b>	<b>54,694</b>	<b>55,136</b>	<b>54,030</b>	<b>54,909</b>	<b>55,499</b>	<b>56,373</b>	<b>57,532</b>	<b>58,894</b>	<b>54,750</b>	<b>54,909</b>	<b>58,894</b>	<b>64,265</b>
<b>Total liabilities and stockholders' equity</b>	<b>67,634</b>	<b>67,967</b>	<b>66,108</b>	<b>66,987</b>	<b>67,577</b>	<b>68,451</b>	<b>69,610</b>	<b>70,972</b>	<b>67,580</b>	<b>66,987</b>	<b>70,972</b>	<b>76,343</b>
Net Cash	3,472	3,818	10,534	11,421	12,019	12,899	14,066	15,436	3,388	11,421	15,436	20,836
<b>Cash Flow- GAAP</b>	<b>1Q23A</b>	<b>2Q23A</b>	<b>3Q23E</b>	<b>4Q23E</b>	<b>1Q24E</b>	<b>2Q24E</b>	<b>3Q24E</b>	<b>4Q24E</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
<b>Net cash provided by (used in):</b>												
Operating activities	486	379	6,114	702	652	936	1,222	1,424	3,565	7,681	4,235	5,620
Investing activities	(1,237)	(438)	(55)	(55)	(55)	(55)	(55)	(55)	1,999	(1,785)	(220)	(220)
Financial activities	(259)	75	(96)	240	-	-	-	-	(3,264)	(40)	-	-

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%	14,107.0	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	\$101.67	\$155.00	52%	161.6	157.8	\$2.70	\$4.25	\$5.13	-	\$22,609	\$26,916	\$29,637	-	36.8x	23.4x	19.4x	-	7.1x	6.0x	5.4x	-
AXTI	AXT Inc	O	\$2.21	\$6.00	171%	0.1	0.2	(\$0.38)	(\$0.01)	\$0.40	-	\$76	\$106	\$137	-	-6.3x	-240.2x	6.0x	-	1.4x	1.0x	0.8x	-
DBD	Diebold Nixdorf Inc	N	\$18.95	\$20.00	6%	0.7	1.8	\$1.36	\$4.02	-	-	\$3,787	\$3,857	-	-	24.2x	8.2x	-	-	0.7x	0.7x	-	-
GFS	Globalfoundries Inc	O	\$54.39	\$70.00	29%	29.8	29.8	\$2.19	\$3.39	-	-	\$7,501	\$8,766	-	-	24.8x	16.0x	-	-	4.0x	3.4x	-	-
INTC	Intel Corp	N	\$34.59	\$35.00	1%	141.8	170.0	\$0.65	\$1.95	\$2.96	-	\$52,935	\$61,425	\$68,647	-	62.3x	20.8x	13.7x	-	3.2x	2.8x	2.5x	-
MU	Micron Technology Inc	O	\$68.07	\$80.00	18%	73.4	77.2	(\$4.45)	(\$0.86)	\$11.44	-	\$15,540	\$20,886	\$37,891	-	-16.1x	-83.1x	6.2x	-	5.1x	3.8x	2.1x	-
NTAP	NetApp Inc	N	\$73.84	\$75.00	2%	15.3	14.7	\$5.59	\$5.73	\$6.16	-	\$6,362	\$6,145	\$6,385	-	12.7x	12.4x	11.5x	-	2.3x	2.4x	2.3x	-
NVDA	NVIDIA Corp	O	\$436.63	\$600.00	37%	1061.5	1055.2	\$3.33	\$10.62	\$15.04	\$17.14	\$26,974	\$53,580	\$74,195	\$88,950	130.4x	40.9x	28.9x	25.3x	39.7x	20.0x	14.4x	12.0x
PSTG	Pure Storage Inc	O	\$33.97	\$45.00	32%	10.4	9.3	\$1.42	\$1.45	\$1.80	-	\$2,753	\$2,973	\$3,522	-	21.4x	21.0x	16.9x	-	3.4x	3.2x	2.7x	-
SIMO	Silicon Motion Technology Corp	O	\$54.50	\$85.00	56%	1.8	1.6	\$1.94	\$4.37	\$5.30	-	\$606	\$778	\$828	-	24.2x	10.7x	8.9x	-	2.6x	2.0x	1.9x	-
SMCI	Super Micro Computer Inc	N	\$262.62	\$250.00	-5%	13.5	13.3	\$11.82	\$16.08	\$18.61	-	\$7,123	\$10,011	\$12,176	-	22.0x	16.2x	14.0x	-	1.9x	1.4x	1.1x	-
STX	Seagate Technology Holdings PLC	N	\$68.10	\$60.00	-12%	13.6	18.2	\$0.19	\$0.39	\$4.61	-	\$7,359	\$7,024	\$9,128	-	477.0x	232.4x	19.7x	-	2.5x	2.7x	2.1x	-
2303	United Microelectronics Corp	O	\$48.30	\$57.00	18%	603.9	489.2	\$4.61	\$5.11	-	-	\$228,461	\$279,977	-	-	8.5x	7.6x	-	-	2.1x	1.7x	-	-
WDC	Western Digital Corp	O	\$42.96	\$60.00	40%	13.6	19.5	(\$1.86)	(\$2.85)	\$10.40	-	\$12,318	\$12,629	\$20,313	-	-31.5x	-20.6x	5.6x	-	1.5x	1.5x	0.9x	-

TICKER	COMPANY NAME	MEAN RATING	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%	14,107.0	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	\$101.67	\$136.90	35%	161.6	157.8	\$2.76	\$4.17	\$5.34	\$6.73	\$22,784	\$27,530	\$32,153	\$35,256	35.9x	23.8x	18.6x	14.8x	7.0x	5.8x	5.0x	4.5x
AXTI	AXT Inc	N	\$2.21	\$4.46	102%	0.1	0.2	(\$0.45)	(\$0.12)	\$0.32	-	\$76	\$99	\$137	-	-5.3x	-20.0x	7.5x	-	1.4x	1.1x	0.8x	-
DBD	Diebold Nixdorf Inc	N	\$18.95	\$22.50	19%	0.7	1.8	\$1.16	\$3.81	-	-	\$3,768	\$3,855	-	-	28.4x	8.7x	-	-	0.7x	0.7x	-	-
GFS	Globalfoundries Inc	O	\$54.39	\$71.64	32%	29.8	29.8	\$2.08	\$2.70	\$3.37	-	\$7,422	\$8,239	\$9,090	-	26.1x	20.1x	16.1x	-	4.0x	3.6x	3.3x	-
INTC	Intel Corp	N	\$34.59	\$35.62	3%	141.8	170.0	\$0.62	\$1.72	\$2.42	\$3.39	\$52,473	\$58,747	\$63,969	\$70,081	64.9x	23.5x	16.8x	11.9x	3.2x	2.9x	2.7x	2.4x
MU	Micron Technology Inc	N	\$68.07	\$78.49	15%	73.4	77.2	(\$4.45)	(\$1.63)	\$5.35	\$7.75	\$15,540	\$20,916	\$30,425	\$33,174	-16.1x	-44.0x	13.4x	9.2x	5.0x	3.8x	2.6x	2.4x
NTAP	NetApp Inc	N	\$73.84	\$80.90	10%	15.3	14.7	\$5.59	\$5.73	\$6.16	\$6.82	\$6,362	\$6,143	\$6,413	\$6,808	12.7x	12.4x	11.5x	10.4x	2.3x	2.4x	2.3x	2.2x
NVDA	NVIDIA Corp	O	\$436.63	\$630.06	44%	1061.5	1055.2	\$3.34	\$10.84	\$17.14	\$20.08	\$26,974	\$54,850	\$82,829	\$97,056	130.0x	40.1x	25.3x	21.6x	39.7x	19.5x	12.9x	11.0x
PSTG	Pure Storage Inc	O	\$33.97	\$44.00	30%	10.4	9.3	\$1.41	\$1.40	\$1.67	\$1.46	\$2,753	\$2,959	\$3,405	\$3,837	21.5x	21.7x	18.2x	20.8x	3.4x	3.2x	2.8x	2.5x
SIMO	Silicon Motion Technology Corp	N	\$54.50	\$76.00	39%	1.8	1.6	\$1.97	\$3.71	\$5.05	-	\$611	\$747	\$871	-	23.9x	12.6x	9.3x	-	2.5x	2.1x	1.8x	-
SMCI	Super Micro Computer Inc	N	\$262.62	\$354.33	35%	13.5	13.3	\$11.81	\$16.97	\$18.58	-	\$7,123	\$10,100	\$11,362	\$13,675	22.0x	15.3x	14.0x	-	1.9x	1.4x	1.2x	1.0x
STX	Seagate Technology Holdings PLC	N	\$68.10	\$60.00	-6%	13.6	18.2	\$0.19	\$0.63	\$4.27	\$5.39	\$7,384	\$6,678	\$8,478	\$8,940	477.0x	143.7x	21.2x	16.8x	2.5x	2.8x	2.2x	2.1x
2303	United Microelectronics Corp	N	\$48.30	\$53.31	10%	603.9	489.2	\$4.58	\$4.67	\$5.26	\$5.00	\$222,985	\$253,035	\$288,904	\$324,375	8.5x	8.4x	7.4x	7.8x	2.2x	1.9x	1.7x	1.5x
WDC	Western Digital Corp	N	\$42.96	\$47.84	11%	13.6	19.5	(\$3.59)	(\$4.12)	\$3.48	\$5.89	\$12,318	\$12,094	\$16,056	\$19,156	-16.3x	-14.2x	16.9x	10.0x	1.5x	1.6x	1.2x	1.0x

Source: Thomson Reuters & Wedbush Securities, Inc. estimates; Priced: 10/24/2023

\* 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
Advanced Micro Devices Inc	OUTPERFORM	\$117.60	\$155.00
Intel Corp	NEUTRAL	\$35.69	\$35.00

**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 25, 2023)	Investment Banking Relationships (as of October 25, 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.

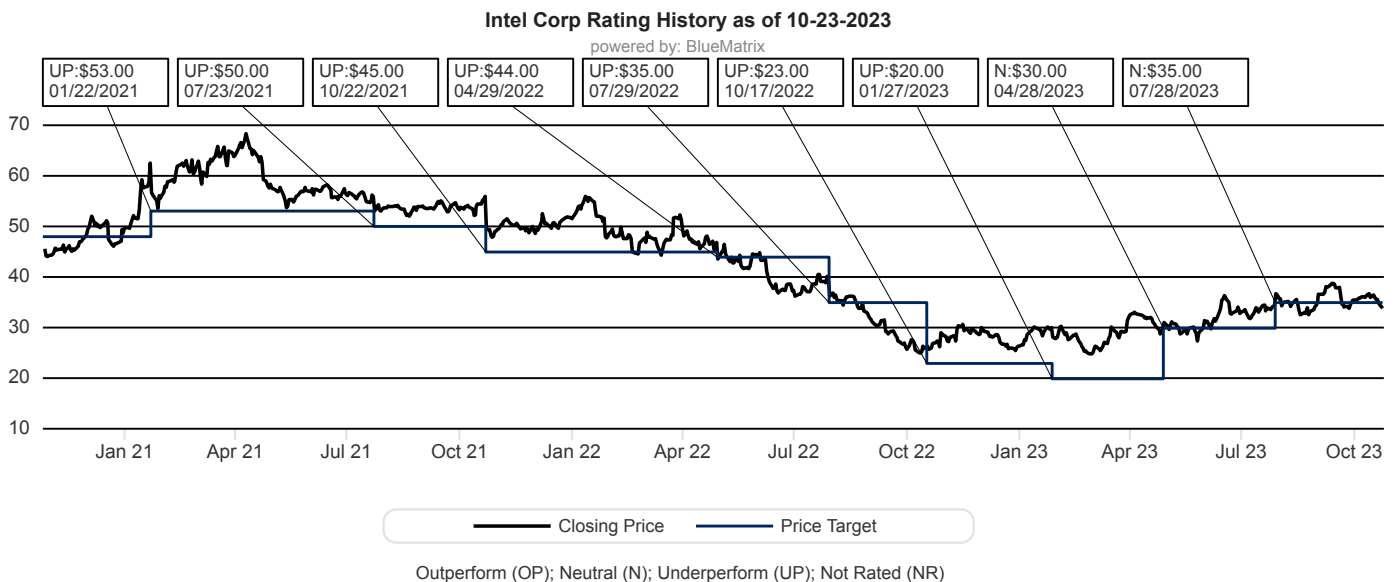
The analysts responsible for preparing research reports do not receive compensation based on specific investment banking activity. The analysts receive compensation that is based upon various factors including WS' total revenues, a portion of which are generated by WS' investment banking activities.

**Company Specific Disclosures**

This information is subject to change at any time.

1. WS makes a market in the securities of Advanced Micro Devices Inc and Intel Corp.

## Price Charts



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](mailto: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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