

Texas Instruments Inc.

Q4 preview: inline results but limited Q1 upside as demand trends remain tepid

Maintain Rating: NEUTRAL | PO: 175.00 USD | Price: 174.83 USD

Maintain Neutral, easy comps, but demand still tepid

We expect TXN to report inline Q4, but potentially guide Q1 below consensus as demand trends in auto/industrial remain tepid as evidenced by (see report) [recent earnings warning from close peer MCHP](#). Second, we are concerned consensus might not be fully reflecting the 200-300bp of annual GM headwind from TXN's rising depreciation burden, with our CY24/25E GM of 58.6%/55.5% about 200/600bp below consensus at 60.7%/61.9%. On the positive side we acknowledge TXN stock's lower AI exposure, its ability to secure US Chips Act funding, and its commitment to free cash flow returns.

Easier compares don't guarantee strong rebound

TXN has easier compares as Q4'23 marks five quarters of YoY declines, typically the end of historical cyclical corrections. Also, TXN's CY23E sales decline of -12% YoY lagged peers, as it depended less on price hikes, or on enforcing take-or-pay contracts, or on using distribution channels compared to peers MCHP and ADI who are now seeing the other side of demand correction. However, all might not be in the clear since: 1) Auto correction: TXN's fastest growing end-market in CY23E, likely up 20%+ YoY, is only now starting to show signs of correction and TXN will likely not be immune, 2) A major part of TXN's CY23 lag vs peers was due to TXN's higher consumer (phones, PC) exposure, and both those markets tend to have seasonal declines in Q1. Indeed, zooming out and looking at CY19-24E (so pre COVID 19 to a more "normalized" year of demand), we see TXN sales growth of 4% CAGR, ADI at 5% and MCHP at 6%, so within similar range and with ADI/MCHP outgrowing due to less consumer, more industrial/5G/data ctr. exposure.

Reshoring trend mixed bag for TXN

TXN benefits most among auto/industrial peers in terms of securing US Chips Act Funds (~80% of TXN's \$5bn annual capex likely domestic). However, TXN's core power management franchise also perhaps most in cross hairs of China's domestic suppliers. Second, TXN's high capex is probably the right long-term strategy geopolitically but could pressure FCF margins towards lower end of historical 25%-40% range.

Estimates (Dec) (US\$)	2021A	2022A	2023E	2024E	2025E
EPS	8.26	9.41	7.04	6.15	6.24
EPS Change (YoY)	38.4%	13.9%	-25.2%	-12.6%	1.5%
Consensus EPS (Bloomberg)			7.12	6.60	7.57
DPS	4.21	4.69	5.08	5.59	6.15
Valuation (Dec)					
P/E	21.2x	18.6x	24.8x	28.4x	28.0x
Dividend Yield	2.4%	2.7%	2.9%	3.2%	3.5%
EV / EBITDA*	15.7x	14.0x	18.2x	19.0x	15.8x
Free Cash Flow Yield*	4.0%	3.7%	1.1%	2.9%	3.0%

* For full definitions of *IQmethod*SM measures, see page 6.

22 January 2024

Equity

Vivek Arya
Research Analyst
BofAS
+1 646 855 1755
vivek.arya@bofa.com

Blake Friedman
Research Analyst
BofAS
+1 646 556 1850
blake.friedman@bofa.com

Duksan Jang
Research Analyst
BofAS
+1 646 556 4825
duksan.jang@bofa.com

Lauren Guy
Research Analyst
BofAS
+1 646 855 4273
lauren.guy2@bofa.com

Stock Data

Price	174.83 USD
Price Objective	175.00 USD
Date Established	15-Dec-2023
Investment Opinion	B-2-7
52-Week Range	139.48 USD - 188.12 USD
Mkt Val (mn) / Shares Out	158,781 USD / 908.2 (mn)
Free Float	99.8%
Average Daily Value (mn)	1008.18 USD
BofA Ticker / Exchange	TXN / NAS
Bloomberg / Reuters	TXN US / TXN.OQ
ROE (2023E)	41.1%
Net Dbt to Eqty (Dec-2022A)	39.0%
ESGMeter TM	High

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to ["BofA ESGMeter Methodology"](#).

Glossary

ADI: Analog Devices

MCHP: Microchip

TXN: Texas Instruments

MBLY: Mobileye

NXP: NXP Semiconductors

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Timestamp: 22 January 2024 04:04PM EST

iQprofileSM Texas Instruments Inc.

iQmethodSM – Bus Performance*

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Return on Capital Employed	39.5%	37.8%	25.1%	20.0%	19.8%
Return on Equity	68.7%	62.4%	41.1%	32.7%	32.4%
Operating Margin	48.8%	50.6%	41.7%	36.4%	34.4%
Free Cash Flow	6,294	5,923	1,723	4,599	4,820

iQmethodSM – Quality of Earnings*

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash Realization Ratio	1.1x	1.0x	1.0x	1.7x	1.7x
Asset Replacement Ratio	3.3x	3.0x	4.2x	3.0x	2.2x
Tax Rate	12.9%	12.8%	12.6%	13.0%	13.0%
Net Debt-to-Equity Ratio	23.3%	39.0%	52.4%	53.2%	62.4%
Interest Cover	48.7x	47.4x	21.3x	18.0x	18.2x

Income Statement Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Sales	18,344	20,028	17,542	17,553	18,830
% Change	26.9%	9.2%	-12.4%	0.1%	7.3%
Gross Profit	12,376	13,771	11,070	10,294	10,458
% Change	33.5%	11.3%	-19.6%	-7.0%	1.6%
EBITDA	9,914	11,119	8,546	8,211	9,841
% Change	44.0%	12.2%	-23.1%	-3.9%	19.9%
Net Interest & Other Income	(41)	(108)	102	120	120
Net Income (Adjusted)	7,736	8,710	6,445	5,629	5,706
% Change	38.9%	12.6%	-26.0%	-12.7%	1.4%

Free Cash Flow Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Net Income from Cont Operations (GAAP)	7,769	8,749	6,482	5,669	5,746
Depreciation & Amortization	755	925	1,183	1,650	2,250
Change in Working Capital	(165)	(404)	(484)	1,859	1,341
Deferred Taxation Charge	NA	NA	NA	NA	NA
Other Adjustments, Net	397	(550)	(459)	420	483
Capital Expenditure	(2,462)	(2,797)	(5,000)	(5,000)	(5,000)
Free Cash Flow	6,294	5,923	1,723	4,599	4,820
% Change	14.6%	-5.9%	-70.9%	167.0%	4.8%
Share / Issue Repurchase	(400)	(3,430)	(56)	(120)	(60)
Cost of Dividends Paid	(3,886)	(4,297)	(4,615)	(5,075)	(5,579)
Change in Debt	945	994	2,500	0	0

Balance Sheet Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Cash & Equivalents	4,631	3,050	2,431	1,835	1,016
Trade Receivables	1,701	1,895	1,822	1,930	2,096
Other Current Assets	7,353	9,076	10,193	10,417	10,553
Property, Plant & Equipment	5,141	6,876	9,852	12,202	13,952
Other Non-Current Assets	5,850	6,310	7,436	6,936	6,436
Total Assets	24,676	27,207	31,735	33,319	34,054
Short-Term Debt	500	500	300	300	1,026
Other Current Liabilities	2,069	2,485	2,318	3,009	3,153
Long-Term Debt	7,241	8,235	10,922	10,922	10,922
Other Non-Current Liabilities	1,533	1,410	1,433	1,433	1,433
Total Liabilities	11,343	12,630	14,973	15,664	16,534
Total Equity	13,333	14,577	16,761	17,656	17,520
Total Equity & Liabilities	24,676	27,207	31,735	33,319	34,054

* For full definitions of iQmethodSM measures, see page 6.

Company Sector

Semiconductors

Company Description

Texas Instruments is a broad-based supplier of semiconductor components, ranging from digital signal processors, to high-performance analog components, to digital light-processing technology and calculators. 65% of TXN sales are exposed to the well diversified, business-to-business Industrial, Automotive, Communications Infrastructure, and Enterprise markets.

Investment Rationale

We rate TXN Neutral. We believe TXN is among the highest quality semiconductor companies in the analog sector, with a strong track record of consistent share gains. However, near-term capex commitments could slow free cash flow growth, limiting FCF upside.

Stock Data

Average Daily Volume

5,766,607

Quarterly Earnings Estimates

	2022	2023
Q1	2.35A	1.85A
Q2	2.45A	1.87A
Q3	2.47A	1.85A
Q4	2.13A	1.46E

Key thoughts heading into Q4 earnings

Maintain Neutral, prolonged corrections key risk

Maintain Neutral on TXN ahead of its earnings results on 1/23. Going into TXN's earnings we expect: 1) Q4 sales in line with guide of \$4.13bn, downside risk Q1 consensus outlook of \$4.09bn amid auto/industrial correction; 2) In turn, we model Q4 gross margin +/- 60.5% (in line with Street), though Q1 gross margin around 58.5% (vs. Street 59.5%) as utilization lags given macro weakness, new fab buildouts; 3) Mixed/negative commentary in autos (recent guide downs MBLY, MCHP), industrial; 4) Mixed/positive commentary in personal electronics (~15% of sales) following 5-6 quarters of PC/smartphone corrections, though still expectations of typical seasonal weakness in Q1. With TXN's Capital Management Day shortly after its eps report (Feb-1), we expect commentary on longer-term adjustments to sales targets and profitability to be limited on the earnings call.

Sub-seasonal expectations but better than peers

TXN's core business (analog + embedded) expected to be sub-seasonal near-term, with consensus modeling Q4 sales -8% QoQ (seasonally down -5.5%) and Q1 down -2% QoQ (seasonally down -0.5%). Still, we note Street expectations of TXN growth 150bp-250bp below seasonal more aggressive relative to outlook for auto/industrial peers (consensus modeling peer sales in 300bp-600bp below seasonal on average). We acknowledge TXN does face easier compares (TXN 1Q23-3Q23 sales down ~12% YoY, peers +1%-2% in aggregate) and has higher consumer exposure (15%-20% of sales vs. peers closer to ~10%), but 60%+ auto/industrial exposure still creates downside risk.

Sales growth can outperform, but see risks to margin

While risk to Q1, CY24E outlook of flattish YoY could be supported by 2H recovery. Growth prospects well above other industrial-centric peers (ADI/MCHP expectations down 10%-15%+ YoY) today. However, we see downside to Street margin expectations, which could cap upside. Depreciation expense is expected to increase by ~\$500-600mn between CY24E/25E to ~\$2bn-\$2.5bn. There will likely be a similar \$450mn-500mn depreciation increase in CY24E, leading us to model CY24E GM% ~200bps below street at ~59%. This represents a decrease of about 400bps YoY (63% GM in CY23E), and we assume a following decrease of 300bps in CY25E to ~56% GM.

Questions ahead of earnings, Capital Management Day

While TXN will update long-term targets at its capital management day, key questions over the next few weeks likely to be centered on: 1) Sustainability of 10%+ annual growth, 2) Timeline/feasibility in returning to mid-60s gross margin?, 3) Sustainability in returning 100% FCF to shareholders?, 4) Growth expectations around company dividend?

Exhibit 1: Summary of Analog sales trends and expectations

Diversified vendors have are on track to grow at a 4%-6% CAGR from '19-'24E

Consensus Sales	CY19	CY20	CY21	CY22	CY23E	CY24E
TXN sales (\$mn)	\$14,383	\$14,461	\$18,344	\$20,028	\$17,566	\$17,640
YoY %	(8.9%)	0.5%	26.9%	9.2%	(12.3%)	0.4%
ADI Sales (\$mn)	\$7,945	\$8,235	\$10,046	\$12,579	\$11,555	\$10,175
YoY %	(8.6%)	3.7%	22.0%	25.2%	(8.1%)	(11.9%)
MCHP Sales (\$mn)	\$5,278	\$5,298	\$6,444	\$8,050	\$8,563	\$7,121
YoY %	5.1%	0.4%	21.6%	24.9%	6.4%	(16.8%)
BofA Sales	CY19	CY20	CY21	CY22	CY23E	CY24E
TXN sales (\$mn)	\$14,383	\$14,461	\$18,344	\$20,028	\$17,542	\$17,553
YoY %	(8.9%)	0.5%	26.9%	9.2%	(12.4%)	0.1%
ADI Sales (\$mn)	\$7,945	\$8,235	\$10,046	\$12,579	\$11,556	\$9,894
YoY %	(8.6%)	3.7%	22.0%	25.2%	(8.1%)	(14.4%)
MCHP Sales (\$mn)	\$5,278	\$5,298	\$6,444	\$8,050	\$8,636	\$7,504
YoY %	5.1%	0.4%	21.6%	24.9%	7.3%	(13.1%)

Source: BofA Global Research, Bloomberg, Visible Alpha

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Exhibit 2: Auto/Industrial Semis Consensus growth outlook versus seasonal

Consensus expects most auto/industrial semis to underperform seasonal trends in 1Q24E

Ticker (QoQ growth basis)	Scenario 1: '15-'19 Seasonal				Scenario 2: '15-'23 Seasonal			
	1Q24E	2Q24E	3Q24E	4Q24E	1Q24E	2Q24E	3Q24E	4Q24E
TXN (Analog + Embedded) Seasonal	(0.5%)	4.0%	6.1%	(5.5%)	0.1%	4.4%	3.4%	(6.7%)
TXN (Analog + Embedded) Consensus	(2.0%)	4.9%	6.7%	0.2%	(2.0%)	4.9%	6.7%	0.2%
TXN Delta	(141bp)	84bp	54bp	568bp	(209bp)	52bp	324bp	690bp
ADI Seasonal	1.3%	(0.8%)	3.2%	(2.6%)	2.7%	1.9%	1.6%	(0.7%)
ADI Consensus	(4.8%)	4.8%	5.4%	1.3%	(2.0%)	4.9%	6.7%	0.2%
ADI Delta	(608bp)	560bp	222bp	394bp	(469bp)	296bp	506bp	91bp
NXPI Seasonal	(7.6%)	5.2%	4.2%	1.6%	(3.5%)	5.4%	5.5%	0.3%
NXPI Consensus	(6.3%)	4.5%	6.5%	3.0%	(2.0%)	4.9%	6.7%	0.2%
NXPI Delta	133bp	(69bp)	231bp	142bp	150bp	(53bp)	118bp	(10bp)
MCHP Seasonal	3.0%	(0.0%)	1.1%	(3.8%)	4.0%	3.1%	2.6%	(2.7%)
MCHP Consensus	(5.7%)	3.6%	5.7%	3.3%	(2.0%)	4.9%	6.7%	0.2%
MCHP Delta	(870bp)	368bp	453bp	710bp	(593bp)	179bp	410bp	293bp
ON Seasonal	(1.1%)	0.8%	4.0%	(2.5%)	(0.6%)	6.3%	4.7%	(1.7%)
ON Consensus	(3.6%)	1.7%	4.5%	3.8%	(2.0%)	4.9%	6.7%	0.2%
ON Delta	(242bp)	100bp	56bp	632bp	(138bp)	(140bp)	193bp	196bp
MTSI Seasonal	6.2%	(2.9%)	3.7%	0.2%	3.2%	(0.8%)	3.5%	1.0%
MTSI Consensus	5.3%	7.1%	7.0%	(2.3%)	(2.0%)	4.9%	6.7%	0.2%
MTSI Delta	(85bp)	1,000bp	327bp	(244bp)	(513bp)	567bp	314bp	(75bp)

Source: BofA Global Research, Bloomberg, Visible Alpha

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Exhibit 3: BofA vs. Consensus outlook on TXN gross margin

We model lower gross margin vs. Street for TXN

Gross Margin Estimates	1Q24E	2Q24E	3Q24E	4Q24E	CY24E	CY25E
BofA Estimate	58.5%	58.6%	58.7%	58.7%	58.6%	55.5%
Consensus Estimate	59.5%	59.9%	60.8%	61.0%	60.7%	61.9%
Delta	(101bp)	(129bp)	(207bp)	(227bp)	(205bp)	(636bp)

Source: BofA Global Research, Bloomberg

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Price objective basis & risk

Texas Instruments Inc. (TXN)

Our \$175 PO is based on 34x CY25E EV/FCF. In-line with historical 15x-42x range, which we believe is warranted based on TXN's best in class FCF generation and returns, and based on incremental cash flow from US CHIPS Act grants.

Risks to our price objective: 1) Macro/cyclical risks given high exposure to automotive, industrial, and telco capex markets, also makes TXN susceptible to any potential global trade tensions/tariffs, 2) Increasing capex intensity and higher depreciation burden could be a headwind to gross margins, 3) Increased R&D spending pressure to maintain an edge versus the competition, 4) Inventory cycles and potential double ordering by customers that can often create mismatches between real supply and demand, 5) Exposure to several mature markets such as PC and other consumer.

Analyst Certification

I, Vivek Arya, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

US - Semiconductors and Semiconductor Capital Equipment Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Advanced Micro Devices, Inc	AMD	AMD US	Vivek Arya
	Analog Devices Inc.	ADI	ADI US	Vivek Arya
	Applied Materials, Inc.	AMAT	AMAT US	Vivek Arya
	Arm Holdings	ARM	ARM US	Vivek Arya
	Broadcom Inc	AVGO	AVGO US	Vivek Arya
	Cadence	CDNS	CDNS US	Vivek Arya
	Camtek	CAMT	CAMT US	Vivek Arya
	KLA Corporation	KLAC	KLAC US	Vivek Arya
	Lam Research Corp.	LRCX	LRCX US	Vivek Arya
	M/A-Com	MTSI	MTSI US	Vivek Arya
	Marvell Technology Group Ltd.	MRVL	MRVL US	Vivek Arya
	Microchip	MCHP	MCHP US	Vivek Arya
	Micron Technology, Inc	MU	MU US	Vivek Arya
	Nova	NVMI	NVMI US	Vivek Arya
	NVIDIA Corporation	NVDA	NVDA US	Vivek Arya
	NXP Semiconductors NV	NXPI	NXPI US	Vivek Arya
	onsemi	ON	ON US	Vivek Arya
	Synopsys	SNPS	SNPS US	Vivek Arya
NEUTRAL				
	Advanced Energy Industries	AEIS	AEIS US	Duksan Jang
	Allegro MicroSystems	ALGM	ALGM US	Blake Friedman
	Axcelis Technologies	ACLS	ACLS US	Duksan Jang
	Coherent Corp	COHR	COHR US	Vivek Arya
	GlobalFoundries	GFS	GFS US	Vivek Arya
	Intel	INTC	INTC US	Vivek Arya
	Lattice Semiconductor	LSCC	LSCC US	Blake Friedman
	Texas Instruments Inc.	TXN	TXN US	Vivek Arya
UNDERPERFORM				
	Ambarella	AMBA	AMBA US	Vivek Arya
	Credo Technology	CRDO	CRDO US	Vivek Arya
	Lumentum Holdings	LITE	LITE US	Vivek Arya
	Qorvo Inc.	QRVO	QRVO US	Vivek Arya
	Skyworks Solutions, Inc.	SWKS	SWKS US	Vivek Arya
	Teradyne	TER	TER US	Vivek Arya
	Wolfspeed Inc	WOLF	WOLF US	Vivek Arya



US - Semiconductors and Semiconductor Capital Equipment Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst

iQmethodSM Measures Definitions

Business Performance	Numerator	Denominator
Return On Capital Employed	NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization	Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization
Return On Equity	Net Income	Shareholders' Equity
Operating Margin	Operating Profit	Sales
Earnings Growth	Expected 5 Year CAGR From Latest Actual	N/A
Free Cash Flow	Cash Flow From Operations – Total Capex	N/A
Quality of Earnings	Numerator	Denominator
Cash Realization Ratio	Cash Flow From Operations	Net Income
Asset Replacement Ratio	Capex	Depreciation
Tax Rate	Tax Charge	Pre-Tax Income
Net Debt-To-Equity Ratio	Net Debt = Total Debt – Cash & Equivalents	Total Equity
Interest Cover	EBIT	Interest Expense
Valuation Toolkit	Numerator	Denominator
Price / Earnings Ratio	Current Share Price	Diluted Earnings Per Share (Basis As Specified)
Price / Book Value	Current Share Price	Shareholders' Equity / Current Basic Shares
Dividend Yield	Annualised Declared Cash Dividend	Current Share Price
Free Cash Flow Yield	Cash Flow From Operations – Total Capex	Market Cap = Current Share Price × Current Basic Shares
Enterprise Value / Sales	EV = Current Share Price × Current Shares + Minority Equity + Net Debt + Other LT Liabilities	Sales
EV / EBITDA	Enterprise Value	Basic EBIT + Depreciation + Amortization

iQmethodSM is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

iQdatabase[®] is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

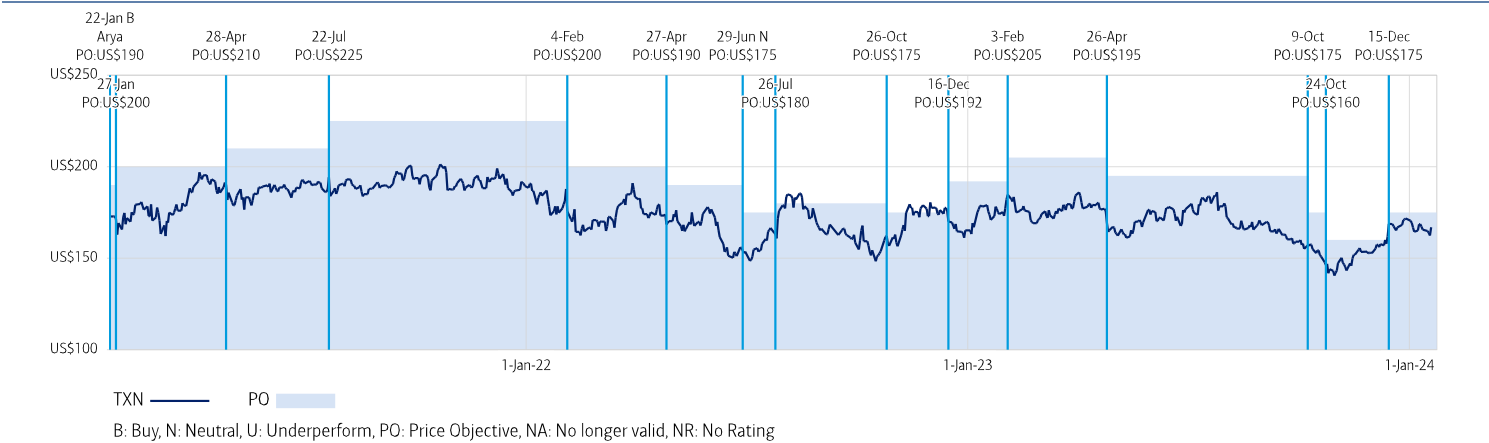
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Disclosures

Important Disclosures

Texas Instr. (TXN) Price Chart



The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. VOLATILITY RISK RATINGS, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. INVESTMENT RATINGS reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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