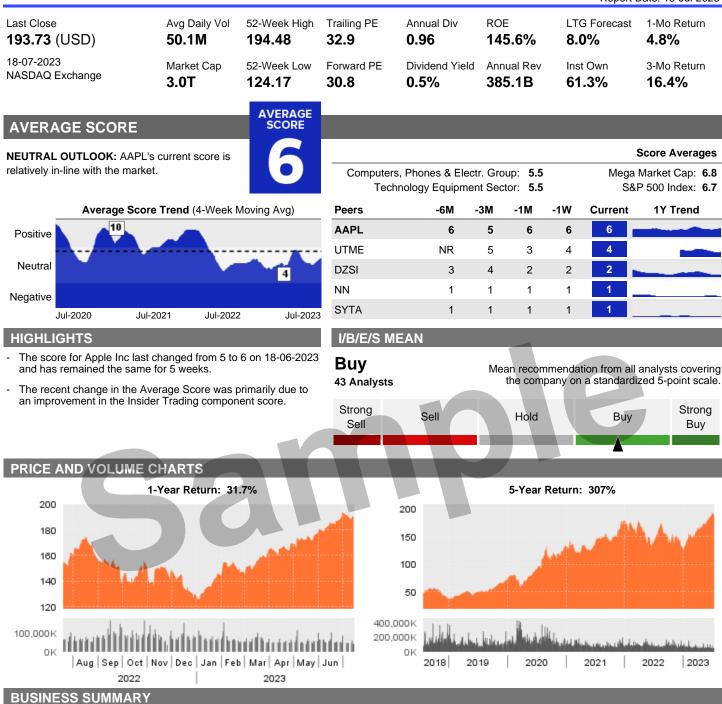
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# DETAILED STOCK REPORT Report Date: 19-Jul-2023



Apple Inc. (Apple) designs, manufactures and markets smartphones, personal computers, tablets, wearables and accessories and sells a range of related services. The Company's products include iPhone, Mac, iPad, AirPods, Apple TV, Apple Watch, Beats products, HomePod, iPod touch and accessories. The Company operates various platforms, including the App Store, which allows customers to discover and download applications and digital content, such as books, music, video, games and podcasts. Apple offers digital content through subscription-based services, including Apple Arcade, Apple Music, Apple News+, Apple TV+ and Apple Fitness+. Apple also offers a range of other services, such as AppleCare, iCloud, Apple Card and Apple Pay. Apple sells its products and resells third-party products in a range of markets, including directly to consumers, small and mid-sized businesses, and education, enterprise and government customers through its retail and online stores and its direct sales force.



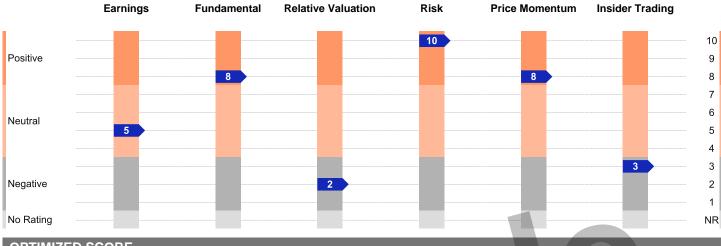
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# **INDICATOR COMPONENTS**

AVERAGE SCORE The **AVERAGE SCORE** combines the quantitative analysis of six widely-used investment decision making tools: Earnings, Fundamental, Relative Valuation, Risk, Price Momentum and Insider Trading. A simple average of the underlying component ratings is normally distributed to rank stocks on a 1-10 scale (10 being awarded to the most favorable). These factors may be evaluated differently using alternative methodologies and the importance of individual factors varies across industries, market capitalization and investment styles. Additional criteria should always be used to evaluate a stock.



# **OPTIMIZED SCORE**



Historically, companies with an Optimized Score of 7 have tended to moderately outperform the market over the following 12-month period.

US analytics

As an alternative approach to equally weighting each of the six factors, independent research firm, Verus Analytics, conducted a backtest to empirically determine an optimal factor blend. Results and weighting vary across four different market capitalization categories. For large/mid cap stocks, Fundamental and Earnings historically provided the most explanatory power among the factors and are weighted heavily in the Optimized Score. Among the small/micro cap universe, Insider Trading joined Fundamental and Earnings as the most significant factors to explain returns.

# PEER ANALYSIS

						_	_						
				PRICE	MOMENTU	M		VALUA	TION	FUNDAN	IENTAL	ANALYSTS	
Average Score	Ticker		Price (18-07-2023)	1-Mo Return	3-Mo Return	1-Yr Return	Market Cap	Trailing PE	Forward PE	Dividend Yield	Net Margin	LTG I/B/E/S Forecast Mean	# of Analysts
6	AAPL		193.73	4.8%	16.4%	31.7%	3.0T	32.9	30.8	0.50%	24.5%	8.0% Buy	43
6	HPQ		32.78	5.7%	5.0%	4.1%	32.3B	12.4	9.3	3.2%	4.8%	Hold	18
8	HPE		17.46	-0.63%	10.6%	32.7%	21.8B	22.4	9.0	2.8%	3.5%	4.6% Hold	21
8	NTAP		78.92	6.1%	16.1%	20.4%	16.5B	13.6	13.8	2.5%	20.0%	7.9% Hold	22
6	SMCI		318.40	38.0%	174.8%	649%	15.5B	30.0	30.5		8.9%	Hold	6
1	NN		2.94	-0.34%	42.0%	11.4%	322M				-1314%	Buy	3
3	EM		1.00	5.3%	-5.2%	-13.1%	218M		16.3		-20.7%	Buy	3
2	DZSI		3.73	-10.6%	-45.5%	-78.1%	123M		5.9		-13.2%	Buy	5
2	ZEPP		1.13	-3.4%	-17.5%	-36.5%	36M		12.7	26.6%	-8.3%	Strong Buy	1
4	UTME		0.58	-77.3%	-28.8%	-58.8%	20M				-14.5%		
1	SYTA		0.05	-49.5%	-57.3%	-94.9%	10M				-244.1%	Buy	2
4.3	Average	1	59.16	-7.4%	10.0%	42.5%	280.6B	22.3	16.0	7.1%	-141.2%	6.8% Buy	12.4

# PEER COMPANIES

DZSI	DZS Inc	NTAP	NetApp Inc
EM	Smart Share Global	SMCI	Super Micro Computer Inc
HPE	Hewlett Packard Enterprise Co	SYTA	Siyata Mobile Inc
HPQ	HP Inc	UTME	Utime
NN	NextNav Inc	ZEPP	Zepp Health Corp



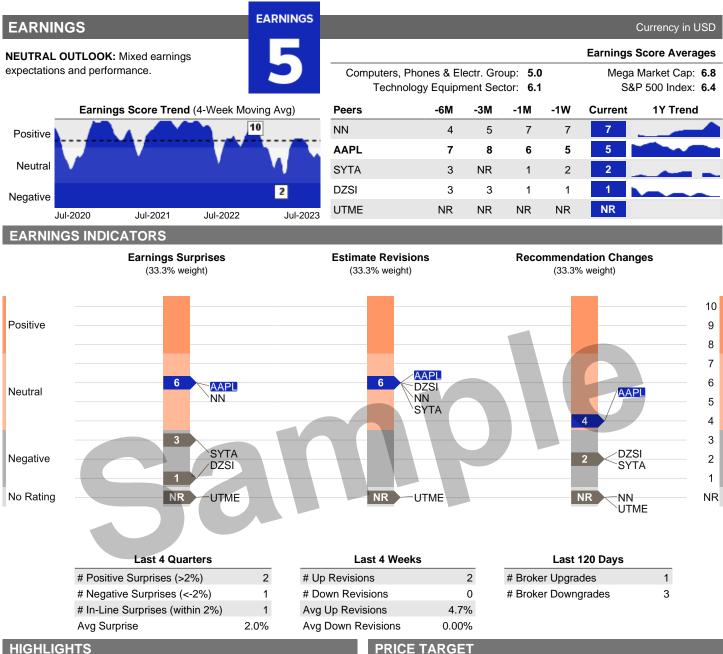
Currency in USD

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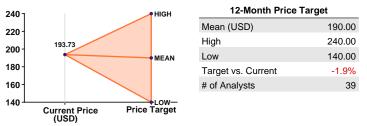
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- Apple Inc currently has a relatively neutral Earnings Rating of 5. The average Earnings Rating for its Phones & Handheld Devices industry is 3.3 and the S&P 500 index average is 6.4.
- Over the past 90 days, the consensus price target for AAPL has increased notably from 171.00 to 190.00, a gain of 11.1%.
- AAPL's current guarter consensus estimate has remained relatively unchanged over the past 90 days at 1.19. Estimates within its industry have moved an average of 0.0% during the same time period.

The chart indicates where analysts predict the stock price will be within the next 12 months, as compared to the current price.





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06-23

1.192

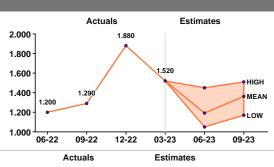
09-23

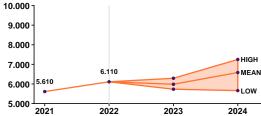
1.362

# **EARNINGS PER SHARE**

Earnings per share (EPS) is calculated by dividing a company's earnings by the number of shares outstanding. Analysts tend to interpret a pattern of increasing earnings as a sign of strength and flat or falling earnings as a sign of weakness.

The charts provide a comparison between a company's actual and estimated EPS, including the high and low forecasts.





Current Fiscal Year End: 09-23

Next Expected Report Date: 03-08-2023

# High 1.450 1.510 Low 1.050 1.170 # of Analysts 29 28

2023	2024
5.984	6.584
6.290	7.250
5.730	5.660
39	39
	5.984 6.290 5.730

# ANALYST RECOMMENDATIONS

# **MEAN ESTIMATE TREND**

	Q 06-23	Q 09-23	Y 2023	Y 2024	Price Target
Current	1.192	1.362	5.984	6.584	190.00
30 Days Ago	1.190	1.360	5.982	6.571	186.00
90 Days Ago	1.226	1.400	5.955	6.601	171.00
% Change (90 Days)	-2.8%	-2.7%	0.50%	-0.30%	11.1%

I/B/E/S Mean: Buy (43 Analysts) Strong Buy 11 Buy 21 Hold 10 Sell 1 Strong Sell 0

Surprise Detail (Last 6 Periods)

Actual

EPS

1.520

1.880

1.290

1.200

1.520

2.100

Mean

EPS

1.434

1.936

1.270

1.162

1.428

1.889

Surprise

(%)

6.0%

-2.9%

1.6%

3.3%

6.4%

11.2%

Period End

31-03-2023

31-12-2022

30-09-2022

30-06-2022

31-03-2022

31-12-2021

Date

Announce

04-05-2023

02-02-2023

27-10-2022

28-07-2022

28-04-2022

27-01-2022

Date

Quarterly

Mean

# **EARNINGS SURPRISES**

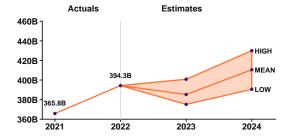
Comparing a company's actual earnings to the mean expectation of analysts results in a difference referred to as a 'positive' or 'negative' surprise. Research has shown that when a company reports a surprise, it is often followed by more of the same surprise type.

Surprise Summary (Last 12 Quarters)

Surprise Type	Amount	Percent
Positive Quarters (> 2%)	9	75.0%
Negative Quarters (< -2%)	1	8.3%
In-Line Quarters (within 2%)	2	16.7%

# ANNUAL REVENUE

A pattern of increasing sales in conjunction with a rising EPS may influence a buy recommendation, while flat or falling sales and faltering earnings may explain a sell recommendation. A rising EPS with flat or falling sales may result from increased cost efficiency and margins, rather than market expansion. This chart shows the sales forecast trend of all analysts and the highest and lowest projections for the current and next fiscal year.



Surprise

Positive

Negative

In-Line

Positive

Positive

Positive

Type

	2023	2024
Mean	385.2B	410.5B
High	400.8B	430.0B
Low	375.1B	390.5B
Forecasted Growth	-2.3%	4.1%
# of Analysts	38	38



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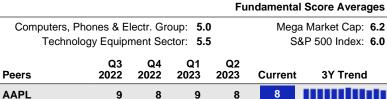
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# **FUNDAMENTAL**



POSITIVE OUTLOOK: Strong fundamentals such as high profit margins, low debt levels, or growing dividends.



4

3

2

1

5

3

2

1

6

3

2

2

3

3

1

1

2

4

1

2



# **FUNDAMENTAL INDICATORS**



UTME

NN

Revenue Growth	-0.2%	Current Ratio	0.9	Oper. Cash Yield	16.2%	Dividend Growth	4.5%
For year over year ending 04-2023		For interim period ending 04-2023		For latest 12 months ending		For year over year ending 04-2023	
Gross Margin	43.2%	Debt-to-Capital	66.3%	Accruals	0.0%	Dividend Payout	15.8%
For latest 12 months ending 04-2023		For annual period ending 09-2022		For latest 12 months ending 09-2022		For latest 12 months ending 04-2023	
<b>Return On Equity</b>	145.6%	Interest Funding	2.8%	Days Sales In Inv.	9.9	Dividend Coverage	8.1
For interim period ending 04-2023		For interim period ending 12-2022		For annual period ending 09-2022		For annual period ending 09-2022	
Net Margin	24.5%	Interest Coverage	31.5	Days Sales In Rec.	52.0	Current Div. Yield	0.5%
For latest 12 months ending 04-2023		For interim period ending 04-2023		For annual period ending 09-2022		For latest 12 months ending 07-2023	

# HIGHLIGHTS

- Apple Inc currently has a Fundamental Rating of 8, which is significantly more bullish than the Phones & Handheld Devices industry average of 5.7.
- The net margin of 24.5% for AAPL is the highest within its Phones & Handheld Devices industry.
- The debt-to-capital of 66.3% for AAPL is the highest within its Phones & Handheld Devices industry.

The days sales in inventory for AAPL is the lowest within its Phones & Handheld Devices industry.

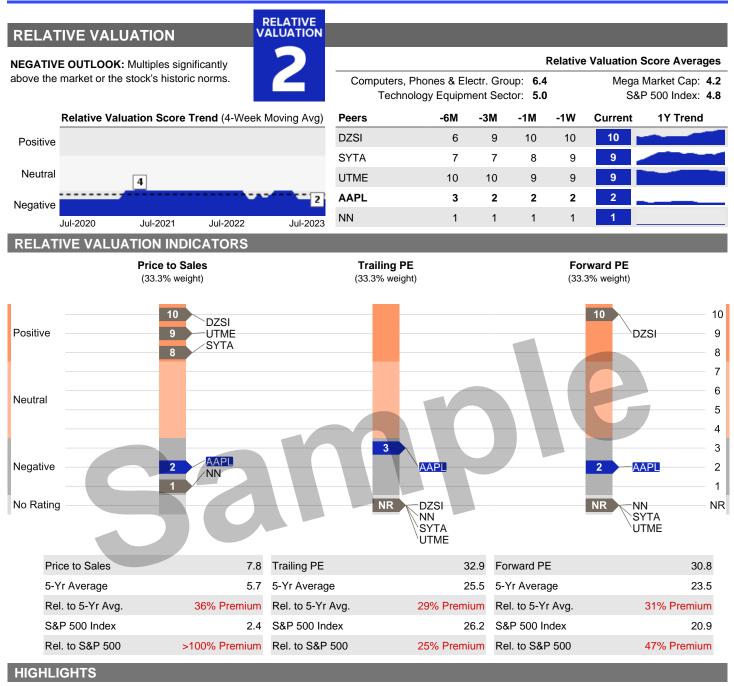
Of the 7 firms within the Phones & Handheld Devices industry, Apple Inc is among 2 companies that pay a dividend. The stock's dividend yield is currently 0.49%.



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- Apple Inc currently has a Relative Valuation Rating of 2 which is significantly below the S&P 500 index average rating of 4.8.

- AAPL's Trailing P/E, Forward P/E, and Forward PEG multiples are all significantly above (more expensive than) their 5-year averages.

- AAPL's 3.9 Forward PEG is currently at the high end of its 5-year range (lowest 0.9 to highest 3.9).

- Based on Trailing P/E, AAPL currently trades at a 0.3% Discount to its Phones & Handheld Devices industry peers. On average, the company has traded at a 0.9% Discount over the past five years.

- Based on Forward P/E, AAPL currently trades at a 0.1% Discount to its Phones & Handheld Devices industry peers. On average, the company has traded at a 0.1% Discount over the past five years.



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# **PRICE TO SALES**

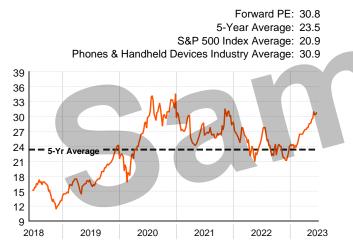
The most recent week's close price divided by the revenue per share.

- Price to Sales: 7.8
- 5-Year Average: 5.7
- S&P 500 Index Average: 2.4
- Phones & Handheld Devices Industry Average: 7.9



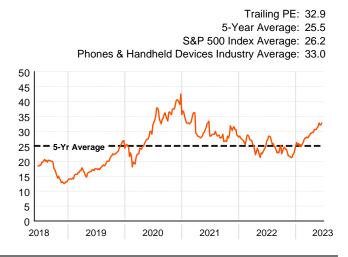
# **FORWARD PE**

The most recent week's close price divided by the sum of the four upcoming quarterly consensus estimates.



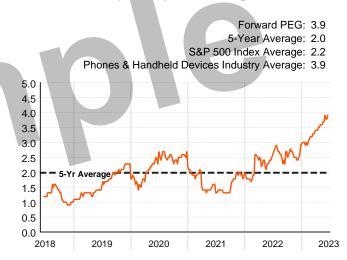
**TRAILING PE** 

The most recent week's close price divided by the sum of the four most recently reported quarterly earnings.



# **FORWARD PEG**

The Forward P/E divided by the five-year forecasted growth rate.





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RISK **RISK Risk Score Averages POSITIVE OUTLOOK:** Consistent return patterns (low volatility). Computers, Phones & Electr. Group: 4.9 Mega Market Cap: 9.0 Technology Equipment Sector: 5.0 S&P 500 Index: 8.8 Risk Score Trend (4-Week Moving Avg) Peers -6M -3M -1M -1W Current **1Y Trend** 10 10 AAPL 8 9 10 10 Positive 8 NN 5 5 4 4 4 Neutral DZSI 3 1 1 1 1 SYTA 1 1 1 1 1 Negative UTME 2 4 2 2 Jul-2020 Jul-2021 Jul-2022 Jul-2023 **RISK INDICATORS** Magnitude of Returns Volatility Beta (1-year) Correlation (25% weight) (25% weight) (25% weight) (25% weight) 10 10 10 10 Positive AAPL AAPL UTME AAPL 9 8 7 6 NN NN Neutral DZSI SYTA 5 5 - 5 4 4 NN 3 3 DZSI DZSI NN AAPL SYTA Negative 2 2 2 2 SYTA SYTA DZSI UTME UTME UTME 1 1 No Rating NR Daily Baturna (Lost 00 Dava) Standard Doviation 1-4 4 00

Daily Returns (I	Daily Returns (Last 90 Days)		Standard Deviation		1.29	Correlation vs. S&P 5	500
Best	4.7%	Last 90 Days	1.07	Positive Days Only	1.45	Last 90 Days	74%
Worst	-1.5%	Last 60 Months	9.66	Negative Days Only	1.25	Last 60 Months	73%
Monthly Return	s (Last 60 Months)	Intra-Day Swing (La	ist 90 Days)	Beta vs. Group	0.71	Correlation vs. Group	)
Best	21.4%	Average	1.4%	Positive Days Only	0.71	Last 90 Days	17%
Worst	-18.4%	Largest	3.9%	Negative Days Only	0.77	Last 60 Months	43%

# HIGHLIGHTS

- Apple Inc currently has a Risk Rating of 10 while the S&P 500 index has an average rating of 8.8.
- On days when the market is up, AAPL shares tends to outperform the S&P 500 index. However, on days when the market is down, the shares generally decrease by more than the index.
- In both short-term and long-term periods, AAPL has shown high correlation (>= 0.4) with the S&P 500 index. Thus, this stock would provide only low levels of diversification to a portfolio similar to the broader market.
- Over the last 90 days, AAPL shares have been less volatile than the overall market, as the stock's daily price has fluctuated less than 93% of S&P 500 index firms.

# **RISK ANALYSIS**

		Last	t 90 Da	iys		Last 60 Months			
Peers	Best Daily Return	Worst Daily Return	# Days Up	# Days Down	Largest Intra-Day Swing	Best Monthly Return	Worst Monthly Return		
AAPL	4.7%	-1.5%	33	29	3.9%	21.4%	-18.4%		
DZSI	12.0%	-36.2%	29	32	22.0%	53.0%	-45.1%		
NN	22.3%	-12.4%	36	26	16.6%	38.0%	-45.3%		
SYTA	19.8%	-34.8%	25	35	37.4%	60.8%	-65.1%		
UTME	224%	-61.0%	31	30	164.3%	163.2%	-74.4%		
S&P 500	2.0%	-1.6%	34	28	1.8%	12.7%	-12.5%		

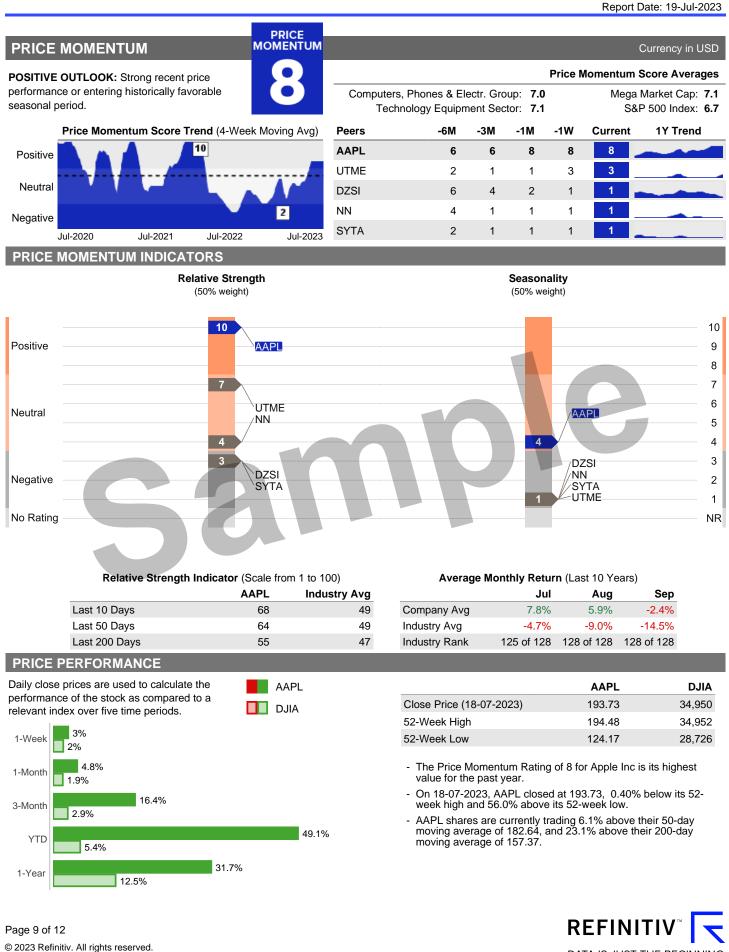


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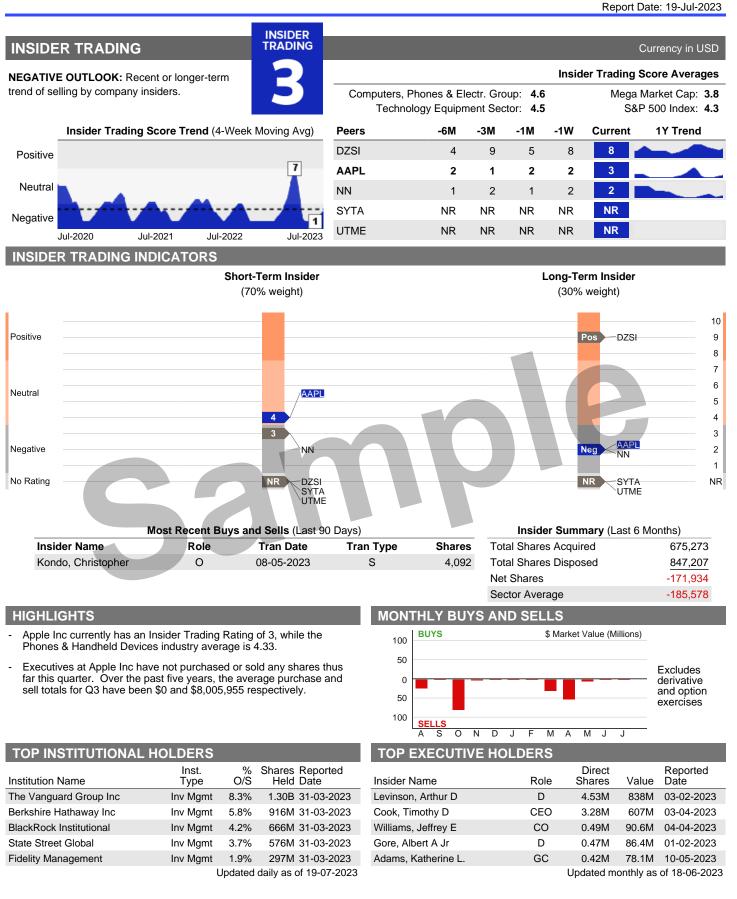
DATA IS JUST THE BEGINNING



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# **DETAILED STOCK REPORT TIPS**

The Stock Report from Refinitiv is a comprehensive, company-specific analysis that includes a proprietary Stock Rating along with underlying component indicators and supportive data elements. The report is updated daily, although some of the data elements and the ratings are updated weekly.

### Average Score

The Stock Reports Plus Average Score combines a quantitative analysis of six widely-used investment decision making tools - Earnings, Fundamental, Relative Valuation, Risk, Price Momentum, and Insider Trading. First, a simple average of the six underlying component ratings is calculated. Then, a normal distribution is used to rank each stock across the market on a scale of 1 to 10, with 10 being most favorable. A score of 8 to 10 is considered positive, 4 to 7 is neutral, and 1 to 3 is negative. These six factors may be evaluated differently using alternative methodologies, and the importance of individual factors varies across groups, market capitalization and investment styles. Additional criteria should always be used to evaluate a stock.

A company must have sufficient data available for at least four of the six component indicators in order to receive an overall Average Score. Approximately 85% of the stocks within the coverage universe meet the criteria to generate a score.

### Optimized Score

As an alternative to the Average Score, the Stock Report includes an Optimized Score generated by independent research firm Verus Analytics. It uses the same six component ratings, but rather than equally weighting each of the factors, the weighting varies by market capitalization of the underlying security based on backtesting research. These scores are also updated weekly and distributed normally on a 1 to 10 scale, with 10 being best. The variable size is assigned monthly by ranking the market capitalization and assigning the appropriate category as follows:

> Large - Top 5.55% Mid - Next 13.87% Small - Next 34.68% Micro - Remaining 45.9%

### Indicator Components

The six indicators that comprise the stock rating are displayed. Like the stock rating, the component rating scale is 1 to 10, with 10 being best. A company will receive an 'NR' for No Rating if the required data elements or criteria are not met. A detailed section for each component is included in the report.

### Indicator Trends

Within each component section, historical score trends are displayed, typically using a 4-week moving average over a timeframe of the past three years. The dotted orange line indicates the average of the scores over those three years. The most recent occurrences of the best and worst scores are also displayed on the chart in grey boxes to put the current score into historical context.

Next to the trend chart for the company, current score averages are included, along with peer company comparisons of values from 6 months ago, 3 months ago, 1 month ago, the most recent value from 1 week ago, and the current score. The four closest industry peers are presented based on similar market capitalization.

### Peer Analysis

The Refinitiv Business Classification (TRBC) schema is used for industry comparisons. It is designed to track and display the primary business of a corporation by grouping together correlated companies that offer products and services into similar end markets. The system includes 10 Economic Sectors, 28 Business Sectors, 54 Industry Groups, and 136 Industries.

The Peer Analysis section of the report compares the company to its ten closest peers. The peers are selected from the industry based on similar market capitalization. The peer listing may have fewer than ten companies if there are fewer than ten companies classified within that industry.

### Highlights

The automated text-generation system from Refinitiv creates highlights summarizing the most noteworthy data. The bullets will vary by company and will change from week to week as different criteria are met.

### Earnings

The Earnings Rating is based on a combination of three factors: earnings surprises, estimate revisions, and recommendation changes. Each factor is equally weighted. Then, equal deciles are used to rank each stock across the market on a scale of 1 to 10, with 10 being most favorable. A stock needs to have at least two of the three earnings factors in order to receive a score.



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Earnings Surprises - The number of positive and negative surprises within the last 4 quarters

Estimate Revisions - The number of up and down revisions and the average percentage change of those revisions within a 4 week period. Recommendation Changes - The number of broker upgrades and downgrades in the last 120 days.

# Price Target

The price target is based on the predictions of analysts covering the stock and shows the high, low and mean price expected within the next 12 months.

### Earnings Per Share

The quarterly and annual earnings per share are presented when available, along with the mean, high and low. Quarterly data is displayed for the past 4 quarters (actual) and the next 2 quarters (estimated). Annual data is displayed for the past 2 years (actual) and the next 2 years (estimated).

### Mean Estimate Trend

The mean estimates show how the consensus has changed over the past 30 days and 90 days for the upcoming two quarters and two years. The percentage change is calculated for the company as a means for comparison by measuring the difference between the current consensus estimate and that of 90 days ago.

### **Analyst Recommendations**

The I/B/E/S Mean is the average recommendation of all analysts covering the stock, as provided by I/B/E/S, the Institutional Brokers Estimate System, from Refinitiv. The recommendations are presented on a five-point standardized scale: strong buy, buy, hold, sell, and strong sell.

### Earnings Surprises

The surprise summary includes the total number of quarters (and percentage) in the past 12 quarters in which earnings surprises were positive, negative, or in-line. In order to be recognized as a positive or negative surprise, the percent must be greater than 2% above or 2% below the consensus, respectively. The surprise detail section includes a listing of the company's quarterly earnings reported for the most recent 6 quarters. The consensus analyst estimate is provided to determine if the actual earnings report represented a positive surprise, negative surprise, or in-line result.

### **Fundamental**

The Fundamental Rating is based on a combination of four factors: profitability, debt, earnings quality, and dividend. Companies that do not pay a dividend are not penalized. Each factor is equally weighted. Then, equal deciles are used to rank each stock across the market on a scale of 1 to 10, with 10 being most favorable. A stock needs to have at least two of the four fundamental factors present for a given fiscal quarter in order to receive a score.

- Profitability is comprised of four data elements.
- Revenue Growth: (Net Sales Previous Net Sales) / Previous Net Sales
- Gross Margin: Gross Profit / Net Sales
- Return on Equity: Net Income / Total Equity Net Margin: Net Profit / Net Sales
- Debt is comprised of four data elements. Current Ratio: Current Assets / Current Liabilities
- Debt-to-Capital: Total Debt / Total Capital
- Interest Funding: (Interest Expense on Debt + Preferred Cash Dividends) / Funds from Operations
- Interest Coverage: Earnings before Interest and Taxes / (Interest Expense on Debt + Preferred Cash Dividends)
- Earnings Quality is comprised of four data elements.
- Operating Cash Yield: (Operating Cash Flow Net Income) / Net Income
  - Accruals: (Net Income Operating Cash Flow Investing Cash Flow) / Average Net Operating Assets
- Days Sales in Inventory: 365 / (Cost of Goods Sold / Inventory)
- Days Sales in Receivables: 365 / (Net Sales / Receivables)

Dividend is comprised of four data elements. The company must have a current dividend yield.

- Dividend Growth Rate: (Dividends per Share Previous Dividends per Share) / Previous Dividends per Share
- Dividend Payout: Dividends per Share / Earnings per Share
- Dividend Coverage: Funds from Operations / Cash Dividends
- Dividend Yield: Annual Dividends per Share / Current Market Price per Share

### Indicator Trend

The fundamental indicator trend displays quarterly scores over the past three years. The best and worst scores over that timeframe can be easily determined from the values shown on the chart for each quarter.



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### Relative Valuation

The Relative Valuation Rating is based on a combination of three factors: Price to Sales, Trailing P/E, and Forward P/E. Each factor is equally weighted. After the individual factors are combined, equal deciles are used to rank each stock across the market on a scale of 1 to 10, with 10 being most favorable. These common valuation metrics are evaluated against the overall market, the index, and the company's own historic 5-year averages. A stock needs to have at least one of the three relative valuation factors in order to receive a score.

Price to Sales: Close Price / (Sales for 4 Quarters or 1 Year / Shares Outstanding)

Trailing P/E: Close Price / Most Recent 4 Quarters of Earnings

Forward P/E: Close Price/ Upcoming 4 Quarters of Earnings

### Valuation Averages

Negative values are excluded when calculating the averages. A maximum value of 100 is placed on Trailing P/E and Forward P/E, a maximum value of 5 is placed on Forward PEG, and a maximum value of 20 is placed on Price to Sales when calculating the averages. Higher values are rounded down to the maximum for the averages.

### Valuation Multiples

The valuation multiples provide the Trailing P/E, Forward P/E, Forward PEG, and Price to Sales for the company and the S&P 500 index average. In addition, a comparison of the current company's values to its 5-year average and an industry average are presented. A discount occurs when the company's ratio is valued more favorably (lower) than that to which it is compared.

### Risk

The Risk Rating displays stocks on a scale of 1 to 10 with 10 being awarded to the least risky stocks. It is derived by looking at a series of long-term (5-year) and short-term (90-day) stock performance measures including volatility, magnitude of returns, beta, and correlation. Each factor is equally weighted. Then, equal deciles are used to rank each stock across the market. A stock needs to have at least two of the four risk factors in order to receive a score.

Magnitude of Returns - The best / worst daily returns in the past 90 days and the best / worst monthly returns in the past 60 months.

Volatility - The standard deviation of the stock price over the last 90 days and last 60 months, along with the average and largest intra-day stock swing. Beta - Measures the tendency of a security's returns to respond to swings in the market, based on the beta of the company versus the relevant index. Correlation - Determines how closely the returns of the stock and the relevant index move together, measured over the last 90 days and last 60 months.

### **Risk Analysis**

Price analysis for the company and the S&P 500 is provided over two time periods. Daily analysis is provided for the last 90 days, whereas monthly statistics are used for the last 60 months.

### Price Momentum

The Price Momentum Rating is based on a combination of two technical performance factors: relative strength and seasonality. The factors are equally weighted. Equal deciles are then used to rank each stock across the market on a scale of 1 to 10, with 10 being most favorable. A stock needs to have data for the relative strength factor in order to receive a score.

Relative Strength - The relative strength of the company for the last 10 days, 50 days, and 200 days on a scale of 1 to 100.

Seasonality - The average monthly return (price performance) for the current month and next 2 months for the company and industry, over the past 10 years. A lower industry rank indicates a higher return.

### Price Performance

Daily close prices are used to calculate the price performance of the stock. The performance of the S&P 500 is also displayed as a means of comparison.

### Insider Trading

The Insider Trading Rating is based on short-term (70% weight) and long-term (30% weight) legal insider trading behavior. After the weightings are considered to combine individual factors, a function similar to a normal distribution is used to rank each stock across the market on a scale of 1 to 10, with 10 being most favorable. A stock needs to have at least one of the two insider trading factors in order to receive a score.

Short-Term Insider - Uses insider buy and sell transactions within the past 90 days. This factor is based on the quantitative insider trading model from Refinitiv that considers the insider's role, consensus, number of shares, market capitalization of the company, and the historic stock performance following trades by the given insider.

Long-Term Insider - Looks at buying, selling and option exercise decisions over the past six months relative to other stocks within the same business sector. The net shares are presented alongside the business sector average as a means of comparison.

### Monthly Buys and Sells

The total market value of open-market buying and selling is displayed by month in the chart for easy comparison. Transactions by trusts and corporations are excluded, along with buys greater than \$10 million and sales greater than \$50 million. Transactions for the exercise of derivatives and option exercises are excluded from the totals.

### Institutional Holders

The top five institutional holders of the company are listed in descending order, based on their total share holdings. Possible values for the institution type include Brokerage, Funds, Inv Mgmt, or Strategic.

### **Executive Holders**

The top five executive insiders of the company are listed in descending order, based on their total direct common share holdings (options are not considered). Indirect holdings are excluded, as the owner may not actually have investment discretion over these shares. This table is updated monthly. Insiders who have not filed any transactions or holdings over the past two years are excluded as this may indicate that the individual is no longer associated with the company. Additionally, direct shares held must be greater than 1,000 to be considered.

### Insider Roles

These role codes may appear in the data for recent insider buys and sells or top executive holders:

- AF Affiliate AI - Affiliate of Advisor B - Beneficial Owner C - Controller CB - Chairman CEO - Chief Executive Officer CFO - Chief Financial Officer CI - Chief Investment Officer CO - Chief Operating Officer CT - Chief Technology Officer
- D Director
- DO Director / Beneficial Owner
- DS Indirect Shareholder
- EC Member of Exec Committee
- EVP Exec Vice President
- FO Former
- GC General Counsel
- **GP** General Partner
- H Officer / Director / Owner

- IA Investment Advisor MC - Member of Committee MD - Managing Director O - Officer OB - Officer / Beneficial Owner
- OD Officer / Director OE Other Executive
- OS Officer of Subsidiary
- OT Officer / Treasurer
- **OX** Divisional Officer
- P President
- R Retired
- S Secretary
- SH Shareholder
- SVP Senior Vice President
- T Trustee
- UT Unknown
- VC Vice Chairman VP - Vice President
- DISCLAIMER

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