

Advanced Energy (AEIS)

\$95.25 (As of 12/29/20)

Price Target (6-12 Months): **\$110.00**

Long Term: 6-12 Months

Zacks Recommendation:

Outperform

(Since: 08/10/20)

Prior Recommendation: Neutral

Short Term: 1-3 Months

Zacks Rank: (1-5)

1-Strong Buy

Zacks Style Scores:

VGM: C

Value: F

Growth: B

Momentum: C

Summary

Advanced Energy is riding on strong momentum across semiconductor equipment, data center, telecom and networking and, industrial and medical spaces. Further, rising investment in foundry/logic and NAND memory is contributing well to the company's semiconductor revenues. Solid demand for critical care medical devices remains a tailwind. Also, strengthening momentum across hyperscale customers is benefiting the company. Further, positive contributions from Artesyn buyout are tailwinds. The company remains optimistic regarding its power supplies for medical applications. Additionally, benefits of rapid 5G deployment and growth prospects in data center market are expected to drive the top-line growth in the near term. However, macro headwinds related to COVID-19 are major concerns. Notably, the stock has underperformed its industry over a year.

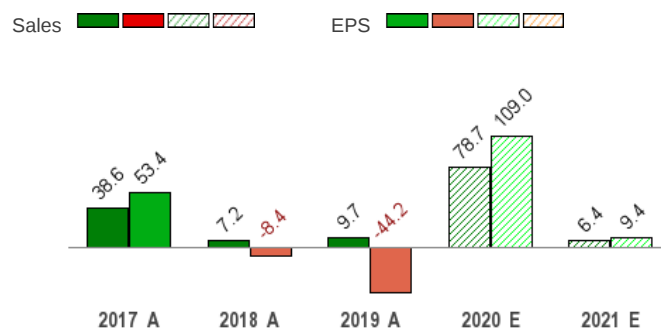
Price, Consensus & Surprise



Data Overview

52-Week High-Low	\$104.43 - \$33.38
20-Day Average Volume (Shares)	249,032
Market Cap	\$3.6 B
Year-To-Date Price Change	33.8%
Beta	1.83
Dividend / Dividend Yield	\$0.00 / 0.0%
Industry	Semiconductor Equipment - Wafer Fabrication
Zacks Industry Rank	Top 7% (19 out of 255)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	41.9%
Last Sales Surprise	10.6%
EPS F1 Estimate 4-Week Change	0.0%
Expected Report Date	02/16/2021
Earnings ESP	2.2%
P/E TTM	20.6
P/E F1	18.7
PEG F1	1.9
P/S TTM	2.6

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	360 E	375 E	380 E	385 E	1,500 E
2020	315 A	340 A	390 A	365 E	1,410 E
2019	141 A	135 A	175 A	338 A	789 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$1.27 E	\$1.42 E	\$1.47 E	\$1.48 E	\$5.58 E
2020	\$0.91 A	\$1.18 A	\$1.66 A	\$1.36 E	\$5.10 E
2019	\$0.58 A	\$0.45 A	\$0.54 A	\$0.87 A	\$2.44 A

*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 12/29/2020. The reports text is as of 12/30/2020.

Overview

Based in Fort Collins, Colorado, Advanced Energy Industries is a power technology company. The company is one of the leading suppliers of power subsystems and process-control technologies to the semiconductor industry.

Advanced Energy had undergone a major restructuring in 2015, exiting the solar inverter business.

The company now focuses primarily on power-conversion solutions, including direct current, pulsed DC, low frequency, high voltage, and radio frequency (RF) power supplies, as well as matching networks and remote plasma sources for reactive gas applications and RF instrumentation to leverage the semiconductor, flat panel display, and industrial markets.

In 2019, the company generated \$788.9 million of revenues.

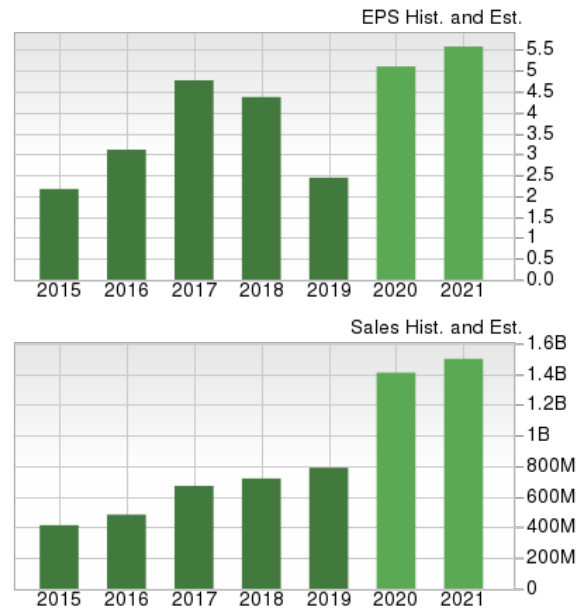
Sales Contribution by product line in 2019 was as follows—Semiconductor Equipment accounted for 51.1%, Industrial & Medical contributed 31.2%, Data Center Computing accounted for 11.6% and Telecom & Networking contributed the remaining 6.1%.

Customers in the semiconductor capital market incorporate products into equipment that make integrated circuits (ICs).

On the other hand, the industrial power capital market is comprised of products for Thin Films Industrial Power and Specialty Power applications.

Further, Advanced Energy made foray into two new growth markets – data center computing, and telecom and networking on the back of Artesyn Embedded Power acquisition.

Additionally, the company maintains its facilities throughout Asia, Europe and North America.



Source: Zacks Investment Research

Reasons To Buy:

- ▲ A number of factors are expected to drive **Advanced Energy's semiconductor revenue** base. The most important factor is growing demand for the company's power solutions in advanced semiconductor applications. Increasing investments in complex 3D NAND devices, DRAM and logic are a big positive for the company. Moreover, NAND manufacturers focus on adding more layers. The additional layers should also drive demand for its power-control modules. Based on its portfolio strength, Advanced Energy is well positioned among the leading players, which should help the company generate strong revenues in the upcoming years.
- ▲ Advanced Energy's **Industrial Revenues** should continue to grow in the near future. The increasing international customer base and new design wins in China and Korea, among others, present significant growth opportunity for Advanced Energy's Industrial business. Also, the acquisitions of Trek and Excelsys Holdings add to Advanced Energy's industrial portfolio, further expanding its opportunities in this market.
- ▲ Advanced Energy has been supplementing organizational growth with **strategic acquisitions**. When deciding on a target, management generally looks out for a particular niche expertise, which will complement one of its many product lines or round out its portfolio. Recently, the company completed the buyout of LumaSense Technologies. This has expanded the company's product portfolio with the addition of photonic-based measurement and monitoring solutions. Moreover, the deal provides a wider exposure to Advanced Energy in the power intensive industrial applications space. Further, the company's acquisition of Trek has added high voltage and electrostatic technology products to its specialty power products portfolio. In 2017, Advanced Energy acquired Excelsys Holdings, an electronics manufacturer in Ireland. In 2019, the company acquired Artesyn Embedded Power which helped it in making its foray into two new growth markets – data center computing, and telecom and networking. These deals are expected to continue aiding its top line growth in the near future.
- ▲ Advanced Energy has a solid balance sheet. As of Sep 30, 2020, the company's net cash amounted to \$102.7 million, increased from \$50.1 million as of Jun 30, 2020. The strong net cash balance will not only help it pursue strategic acquisitions but will also enable it repurchase shares aggressively in the long haul. Further, debt-to-total capital was 29.8% as of Sep 30, 2020 which decreased from 38.1% as of Jun 30, 2020.

Advanced Energy's leading market position, strong semi and industrial demand, strategic acquisitions and impressive balance sheet are major positives.

Risks

- **Customer concentration** of the company is significant. Advanced Energy's growth profile highly depends on its two large original equipment manufacturers (OEMs), Applied Materials and Lam Research. Advanced Energy generated approximately 51.1% of 2019 revenues from its top two customers. Hence, customer concentration seems to be a perennial problem related to the nature of technology it offers.
 - Advanced Energy is **exposed to fluctuations in foreign-currency rates** as international revenues account for a significant portion of its total revenues. The company generates a significant portion of sales internationally, and relies on international suppliers, manufacturing partners and distributors. Therefore, fluctuations in foreign-currency rates, changes in political or economic conditions and regulatory requirements, among others, could negatively impact the company's operations in the future.
 - Acquisitions are part of Advanced Energy's growth strategy to supplement the top line. However, the company's inability to identify suitable acquisition candidates, unsuccessful execution and integration of new acquisitions, as well as an increase in acquisition costs due to stiff competition could negatively impact sales/margin performance. Large number of acquisitions increases risks of **integration issues**.
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Last Earnings Report

Advanced Energy Beats on Q3 Earnings & Revenues

Advanced Energy Industries reported third-quarter 2020 non-GAAP earnings of \$1.66 per share, beating the Zacks Consensus Estimate by 41.9%. Further, the bottom line was higher than management's guided range of 9 cents to \$1.40 per share.

The bottom line also improved significantly from 54 cents per share in the year-ago quarter. Additionally, the figure surged 40.7% sequentially.

Revenues of \$389.5 million surpassed the Zacks Consensus Estimate of \$352 million and came within management's guided range of \$325-\$375 million. Moreover, the top line soared 122.4% from the year-ago quarter and 14.6% from the prior quarter.

The year-over-year improvement in the top line can be attributed to favourable demand conditions. Plus, a strong momentum across semiconductor equipment, data center, telecom and networking, and industrial and medical contributed to the outperformance. Additionally, a positive contribution from Artesyn Embedded Power buyout was a catalyst. Further, a solid performance delivered by the company across North America and Asia was a major upside.

However, coronavirus-induced supply-chain constraints remained concerns.

Nevertheless, the company is optimistic about its power supplies for medical applications. Further, prospects related to 5G remain key levers. Additionally, the strengthening momentum across data center market is a tailwind.

Top Line in Detail

Product revenues soared 141.8% year over year to \$358.3 million (92% of total revenues) in the third quarter. Services revenues improved 15.8% from the prior-year quarter to \$31.3 million (8% of revenues).

Product Line in Detail

Semiconductor Equipment revenues jumped 73.2% year over year to \$167.1 million (43% of total revenues). The company witnessed heavy investments in foundry/logic, which acted as a boon. Also, hefty NAND memory investments contributed significantly to the results. This apart, a solid momentum across semiconductor products and services substantially aided the performance.

Industrial & Medical revenues rose 57.7% year over year to \$87 million (22.3% of revenues).

Telecom & Networking revenues were \$47.7 million (12.2% of revenues), up from \$10.02 million in the prior-year quarter.

Data Center Computing revenues were \$87.7 million (22.5% of revenues), up from \$13.5 million in the year-ago quarter. Climbing hyperscale revenues and a strong momentum across Enterprise OEM owing to solid demand from prior design wins benefited the company.

Operating Results

In the third quarter, non-GAAP gross profit was 39.8%, which contracted 380 basis points (bps) from the year-ago quarter.

Non-GAAP operating expenses were \$78.9 million, up 47.6% year over year. As a percentage of revenues, the figure contracted significantly from 30.5% in the year-ago quarter to 20.3% in the reported quarter.

Further, non-GAAP operating margin was 19.5%, expanding 640 bps from the prior-year quarter.

Balance Sheet & Cash Flow

As of Sep 30, 2020, cash, cash equivalents and marketable securities were \$431.6 million compared with \$383.4 million as of Jun 30, 2020. Long-term debt stood at \$308.8 million at the end of the third quarter, down from \$313.04 million at the end of the second quarter.

During the third quarter, cash flow from operations was \$67.5 million compared with \$38.6 million in the second quarter. Capital expenditure during the reported quarter was \$11.8 million, up from \$7.3 million in the prior quarter.

Q420 Guidance

For fourth-quarter 2020, Advanced Energy expects non-GAAP earnings between \$1.10 and \$1.50 per share.

Further, the company anticipates revenues in the range of \$340-\$380 million.

Quarter Ending	09/2020
Report Date	Nov 05, 2020
Sales Surprise	10.63%
EPS Surprise	41.88%
Quarterly EPS	1.66
Annual EPS (TTM)	4.62

Recent News

On **Aug 6, 2020**, Advanced Energy unveiled Ascent MS multi-output power supply system that supports up to five independent chambers of passivated emitter and rear contact processes in a single unit,

On **May 11, 2020**, Advanced Energy's Artesyn Embedded Power rolled out a new Open Compute Project Open Rack version 3 (OCP ORv3) power shelf which will be highly beneficial in the growing adoption of 48-volt rack power distribution in hyperscale data centers.

On **Jan 7, 2020**, Advanced Energy's Artesyn Embedded Power unveiled a new 1300-watt quarter-brick dc-dc converter, BDQ1300. The latest converter is likely to aid the company's momentum across 48-volt data center and communications network equipment as it is capable of accepting an input voltage range from 40 to 60 volts.

Valuation

Advanced Energy shares are up 44.7% in the six-month period and 33.7% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 37% and 25.8% in the six-month period, respectively. Over the past year, the Zacks sub-industry and the sector are up 57% and 39.8%, respectively.

The S&P 500 index is up 21.3% in the six-month period and 18% in the past year.

The stock is currently trading at 17.08X forward 12-month earnings, which compares to 27.23X for the Zacks sub-industry, 28.18X for the Zacks sector and 23X for the S&P 500 index.

Over the past five years, the stock has traded as high as 33.89X and as low as 8.04X, with a 5-year median of 17.74X. Our Outperform recommendation indicates that the stock will perform better than the market. Our \$110 price target reflects 19.72X forward 12-month earnings.

The table below shows summary valuation data for AEIS

Valuation Multiples - AEIS					
		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	17.08	27.23	28.18	23
	5-Year High	33.89	27.23	28.18	23.79
	5-Year Low	8.04	12.36	16.93	15.3
	5-Year Median	17.74	17.55	19.95	17.81
P/S F12M	Current	2.43	8.42	4.54	4.37
	5-Year High	5.58	8.42	4.54	4.37
	5-Year Low	1.03	3.64	2.77	3.17
	5-Year Median	3.16	5.15	3.47	3.67
EV/EBITDA TTM	Current	13.99	35.58	16.39	16.92
	5-Year High	30.85	36.01	16.49	16.96
	5-Year Low	3.75	9.4	8.25	9.56
	5-Year Median	13.79	20.58	12.05	13.18

As of 12/29/2020

Source: Zacks Investment Research

Industry Analysis Zacks Industry Rank: Top 7% (19 out of 255)



Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
Applied Materials, Inc. (AMAT)	Neutral	3
AMETEK, Inc. (AME)	Neutral	3
ASML Holding N.V. (ASML)	Neutral	2
Bruker Corporation (BRKR)	Neutral	3
KLA Corporation (KLAC)	Neutral	3
Lam Research Corporation (LRCX)	Neutral	3
MKS Instruments, Inc. (MKSI)	Neutral	2
Teradyne, Inc. (TER)	Neutral	3

The positions listed should not be deemed a recommendation to buy, hold or sell.

Industry Comparison Industry: Semiconductor Equipment - Wafer Fabrication				Industry Peers		
	AEIS	X Industry	S&P 500	KLAC	MKSI	TER
Zacks Recommendation (Long Term)	Outperform	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	1	-	-	3	2	3
VGM Score	C	-	-	A	C	B
Market Cap	3.65 B	72.60 B	25.66 B	39.29 B	8.31 B	19.46 B
# of Analysts	5	7	13	7	5	9
Dividend Yield	0.00%	0.77%	1.49%	1.42%	0.53%	0.34%
Value Score	F	-	-	C	D	C
Cash/Price	0.11	0.08	0.06	0.05	0.09	0.06
EV/EBITDA	37.74	30.54	14.52	19.53	24.26	27.83
PEG F1	1.93	1.72	2.80	1.75	NA	1.23
P/B	4.75	9.92	3.63	14.22	3.73	9.76
P/CF	31.92	28.91	13.81	17.66	21.98	31.98
P/E F1	19.31	19.89	22.02	20.24	21.24	26.11
P/S TTM	2.64	5.32	2.82	6.62	3.83	6.45
Earnings Yield	5.35%	5.04%	4.40%	4.94%	4.71%	3.83%
Debt/Equity	0.40	0.46	0.70	1.24	0.37	0.20
Cash Flow (\$/share)	2.98	6.37	6.93	14.41	6.86	3.66
Growth Score	B	-	-	A	C	A
Historical EPS Growth (3-5 Years)	8.58%	24.41%	9.71%	22.67%	24.90%	26.00%
Projected EPS Growth (F1/F0)	109.10%	39.72%	1.26%	21.44%	56.95%	56.95%
Current Cash Flow Growth	-35.66%	-1.98%	5.23%	43.45%	-27.42%	9.31%
Historical Cash Flow Growth (3-5 Years)	8.19%	15.05%	8.33%	31.56%	24.72%	3.50%
Current Ratio	2.91	2.96	1.38	2.72	4.58	3.34
Debt/Capital	28.66%	31.33%	41.97%	55.32%	26.84%	16.93%
Net Margin	7.45%	22.32%	10.40%	21.76%	12.78%	24.02%
Return on Equity	23.64%	33.28%	14.99%	65.49%	16.49%	44.90%
Sales/Assets	0.88	0.81	0.50	0.65	0.61	0.98
Projected Sales Growth (F1/F0)	78.71%	24.27%	0.35%	9.47%	19.49%	34.18%
Momentum Score	C	-	-	A	F	C
Daily Price Change	-3.11%	-0.66%	-0.53%	-1.25%	-0.38%	-0.45%
1-Week Price Change	0.11%	-0.01%	-0.44%	-1.17%	0.38%	-1.42%
4-Week Price Change	-4.51%	0.60%	0.57%	-0.90%	7.64%	1.81%
12-Week Price Change	44.85%	39.15%	13.26%	27.29%	35.46%	44.49%
52-Week Price Change	33.78%	49.95%	6.23%	42.76%	36.98%	71.87%
20-Day Average Volume (Shares)	249,032	927,281	1,797,784	841,880	306,188	1,294,133
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
EPS F1 Estimate 4-Week Change	0.04%	0.38%	0.00%	0.51%	0.00%	-0.11%
EPS F1 Estimate 12-Week Change	18.01%	8.08%	3.71%	10.29%	7.91%	15.95%
EPS Q1 Estimate Monthly Change	0.16%	0.00%	0.00%	0.00%	0.00%	-0.38%

Source: Zacks Investment Research

Zacks Stock Rating System

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

Zacks Recommendation

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we maintain a balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

Zacks Rank

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

Zacks Style Scores

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.

Value Score	F
Growth Score	B
Momentum Score	C
VGM Score	C

As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

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Returns quoted represent past performance which is no guarantee of future results. Investment returns and principal value will fluctuate so that when shares are redeemed, they may be worth more or less than their original cost. Current performance may be higher or lower than the performance shown.

Investing involves risk; principal loss is possible. There is no guarantee that companies that can issue dividends will declare, continue to pay or increase dividends.

Glossary of Terms and Definitions

52-Week High-Low: The range of the highest and lowest prices at which a stock has traded during the past year. This range is determined based on the stock's daily closing price which may differ from the intra-day high or low. Many investors use it as a technical indicator to determine a stock's current value and future price movement. The idea here is that if price breaks out from the 52-week range, in either direction, the momentum may continue in the same direction.

20-Day Average Volume (Shares): The average number of shares of a company traded in a day over the last 20 days. It is a direct indication of a security's overall liquidity. The higher the average daily trading volume, the easier it is to enter or exit the stock at a desired price with more buyers and sellers being available.

Daily Price Change: This is the percentage difference between a trading day's closing price and the prior trading day's closing price. This item is updated at 9 p.m. EST each day.

1-Week Price Change: This is the percentage change in a stock's closing price over the last 5 trading days. This change reflects the collective buying and selling sentiment over the 1-week period.

A strong weekly price increase for the stock, especially when accompanied by increased volume, is an indication of it gaining momentum.

4-Week Price Change: This is the percentage change in a stock's closing price over the last 20 trading days or past 4 weeks. This is a medium-term price change metric and an indication of the stock gaining momentum.

12-Week Price Change: This is the percentage change of a stock's closing price over the last 60 trading days or past 12 weeks. Similar to 4-week price change, this is a medium-term price change metric. It shows whether a stock has been enjoying strong investor demand, or if it has been in consolidation, or distress over this period.

52-Week Price Change: This is the percentage change in a stock's closing price over the last 260 trading days or past 52 weeks. This long-term price change metric is a good reference point for investors. Some investors seek stocks with the best percentage price change over the last 52 weeks, expecting the momentum to continue.

Market Cap: The number of outstanding common shares of a company times its latest price per share. This figure represents a company's size, which indicates various characteristics, including price stability and risk, in which investors could be interested.

Year-To-Date Price Change: Change in a stock's daily closing price in the period of time beginning the first day of the current calendar year through to the previous trading day.

of Analysts: Number of EPS estimates used in calculating the current-quarter consensus. These estimates come from the brokerage analysts tracking this stock. However, the number of such analysts tracking this stock may not match the number of estimates, as all brokerage analysts may not come up with an estimate or provide it to us.

Beta: A measure of risk commonly used to compare the volatility of a stock to the overall market. The S&P 500 Index is the base for calculating beta and carries a value of 1. A stock with beta below 1 is less risky than the market as a whole. And a stock with beta above 1 is riskier.

Dividend: The portion of earnings a company is expected to distribute to its common shareholders in the next 12 months for each share they own. Dividends are usually paid quarterly. Dividend payments reflect positively on a company and help maintain investors' trust. Investors typically find dividend-paying stocks appealing because the dividend adds to any market price appreciation to result in higher return on investment (ROI). Moreover, a steady or increasing dividend payment provides investors a cushion in a down market.

Dividend Yield: The ratio of a company's annual dividend to its share price. The annual dividend used in the ratio is calculated based on the most recent dividend paid by the company. Dividend yield is an estimate of the dividend-only return from a stock in the next 12 months. Since dividend itself doesn't change frequently, dividend yield usually changes with a stock's price movement. As a result, often an unusually high dividend yield is a result of weak stock price.

S&P 500 Index: The Standard & Poor's 500 (S&P 500) Index is an unmanaged group of securities considered to be representative of the stock market in general. It is a market-capitalization-weighted index of stocks of the 500 largest U.S. companies. Each stock's weight in the index is proportionate to its market value.

Industry: One of the 250+ groups that Zacks classifies all stocks into based on the nature of business. These groups are termed as expanded (aka "X") industries and map to their respective (economic) sectors; Zacks has 16 sectors.

Zacks Industry Rank: The Zacks Industry Rank is determined by calculating the average Zacks Rank for all stocks in the industry and then assigning an ordinal rank to it. For example, an industry with an average Zacks Rank of 1.6 is better than an industry with an average Zacks Rank of 2.3. So, the industry with the better average Zacks Rank would get a better Zacks Industry Rank. If an industry has the best average Zacks Rank, it would be considered the top industry (1 out of 250+), which would place it at the top 1% of Zacks-ranked industries. Studies have shown that roughly half of a stock's price movement can be attributed to the industry group it belongs to. In fact, the top 50% of Zacks-ranked industries outperforms the bottom 50% by a factor of more than 2 to 1.

Last EPS Surprise: The percentage deviation of a company's last reported earnings per share from the Zacks Consensus Estimate. Companies with a positive earnings surprise are more likely to surprise again in the future (or miss again if they recently missed).

Last Sales Surprise: The percentage deviation of a company's last reported sales from the Zacks Consensus Estimate.

Expected Report Date: This is an estimated date of a company's next earnings release. The information originated or gathered by Zacks Investment Research from its information providers or publicly available sources is the basis of this estimate.

Earnings ESP: The Zacks Earnings ESP compares the Most Accurate Estimate to the Zacks Consensus Estimate for the yet-to-be reported quarter. The Most Accurate Estimate is the most recent version of the Zacks Consensus EPS Estimate. The idea here is that analysts revising their estimates closer to an earnings release have the latest information, which could potentially be more accurate than what they and others contributing to the consensus had predicted earlier. Thus, a positive or negative Earnings ESP reading theoretically indicates the likely deviation of the actual earnings from the consensus estimate. However, the model's predictive power is significant for positive ESP readings only. A positive Earnings ESP is a strong predictor of an earnings beat, particularly when combined with a Zacks Rank #1 (Strong Buy), #2 (Buy) or #3 (Hold). Our research shows that stocks with this combination produce a positive surprise nearly 70% of the time.

Periods:

TTM: Trailing 12 months. Using TTM figures is an effective way of analyzing the most-recent financial data in an annualized format that helps neutralize the effects of seasonality and other quarter-to-quarter variation.

F1: Current fiscal year. This period is used to analyze the estimates for the ongoing full fiscal year.

F2: Next fiscal year. This period is used to analyze the estimates for the next full fiscal year.

F12M: Forward 12 months. Using F12M figures is an effective way of analyzing the near-term (the following four unreported quarters) estimates in an annualized manner. Instead of typically representing estimates for the full fiscal year, which may not represent the nitty-gritty of each quarter, F12M figures suggest an all-inclusive annualized estimate for the following four quarters. The annualization helps neutralize the potential effects of seasonality and other quarter-to-quarter variations.

P/E Ratio: The price-to-earnings ratio measures a company's current market price per share relative to its earnings per share (EPS). Usually, the trailing-12-month (TTM) EPS, current-fiscal-year (F1) EPS estimate, or forward-12-month (F12M) EPS estimate is used as the denominator. In essence, this ratio shows what the market is willing to pay today for each dollar of EPS. In other words, this ratio gives a sense of what the relative value of the company is at the already reported level of earnings or at a future level of earnings.

It is one of the most widely-used multiples for determining the value of a company and helps comparing its valuation with that of a competitor, the industry group or a benchmark.

PEG Ratio: The price/earnings to growth ratio is a stock's P/E ratio using current fiscal year (F1) EPS estimate divided by its expected EPS growth rate over the coming 3 to 5 years. This ratio essentially determines a stock's value by factoring in the company's expected earnings growth and is thus believed to provide a more complete picture than just the P/E ratio, particularly for faster-growing companies.

P/S Ratio: The price-to-sales ratio is calculated as a company's current price per share divided by trailing 12 months (TTM) sales or revenues per share. This ratio shows what the market is willing to pay today for each dollar of TTM sales per share. The P/S ratio is at times the only valuation metric when the company has yet to become profitable.

Cash/Price Ratio: The cash-to-price ratio or Cash Yield is calculated as cash and marketable securities per share divided by the company's current share price. Like the earnings yield, which shows the anticipated yield (or return) on a stock from earnings for each dollar invested, the cash yield does the same, with cash being the source of return instead of earnings. For example, a cash/price ratio of 0.08 suggests a return of 8% or 8 cents for every \$1 investment.

EV/EBITDA Ratio: The EV/EBITDA ratio, also known as Enterprise Multiple, is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by EBITDA (earnings before interest, taxes, depreciation and amortization). Usually, trailing-12-month (TTM) or forward-12-month (F12M) EBITDA is used as the denominator.

EV/Sales Ratio: The enterprise value-to-sales ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by annual sales. It is an expansion of the P/S valuation, which uses market value instead of enterprise value. The EV/Sales ratio is perceived as more accurate than P/S, in part, because the market capitalization does not take a company's debt into account when valuing it.

EV/CF Ratio: The enterprise value-to-cash flow ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by the trailing-12-month (TTM) operating cash flow. It's a measure of how long it would take to buy the entire business if you were able to use all the company's operating cash flow.

The EV/CF ratio is perceived as more accurate than the P/CF ratio, in part, because the market price does not take a company's debt into account when valuing it.

EV/FCF Ratio: The enterprise value-to-free cash flow metric compares a company's enterprise value to its trailing-12-month (TTM) free cash flow (FCF). This metric is very similar to the EV/CF ratio, but is considered a more exact measure owing to the fact that it uses free cash flow, which subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding growth activities and payments to shareholders.

P/EBITDA Ratio: The P/EBITDA ratio is calculated as a company's per share market value divided by EBITDA (earnings before interest, taxes, depreciation, and amortization). This metric is very similar to the EV/EBITDA ratio, but is considered a little less exact measure as it uses market price, which does not take a company's debt into account. However, since EBITDA is often considered a proxy for cash income, the metric is used as a measure of what the market is willing to pay today for each dollar of the company's cash profitability in the trailing 12 months (TTM) or forward 12 months (F12M).

P/B Ratio: The price-to-book ratio is calculated as a company's current price per share divided by its book value (total assets – liabilities – preferred stocks) per share. In short, the book value is how much a company is worth. In other words, it reflects the total value of a company's assets that its common shareholders would receive if it were to be liquidated. So, the P/B ratio indicates whether you're paying higher or lower than what would remain if the company went bankrupt immediately. Investors typically use this metric to determine how a company's stock price stacks up to its intrinsic value.

P/TB Ratio: The price-to-tangible-book value ratio is calculated as a the per share market value of a company divided by the value of its tangible assets (total assets – liabilities – preferred stocks – intangible assets) per share. Tangible book value is the same thing as book value except it excludes the value of intangible assets to get a step closer to the baseline value of the company.

P/CF Ratio: The price-to-cash flow ratio measures a company's per share market price relative to its trailing-12-month (TTM) operating cash flow per share. This metric is used to determine whether a company is undervalued or overvalued relative to another stock, industry or sector. And like the P/E ratio, a lower number is typically considered better from the value perspective.

One of the reasons why P/CF ratio is often preferred over P/E ratio is the fact that operating cash flow adds back non-cash expenses such as depreciation and amortization to net income. This feature helps valuing stocks that have positive cash flow but are not profitable because of large noncash charges.

P/FCF Ratio: The price-to-free cash flow ratio is an extension of P/CF ratio, which uses trailing-12-month (TTM) free cash flow per share instead of operating cash flow per share. This metric is considered a more exact measure than P/CF ratio, as free cash flow subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding activities that generate additional revenues.

Earnings Yield: The earnings yield is calculated as current fiscal year (F1) EPS estimate divided by the company's current share price. The ratio, which is the inverse of the P/E ratio, measures the anticipated yield (or return) from earnings for each dollar invested in a stock today.

For example, earnings yield for a stock, which is trading at \$35 and expected to earn \$3 per share in the current fiscal year (F1), would be 0.0857 ($3/35 = 0.0857$) or 8.57%. In other words, for \$1 invested in the stock today, the yield from earnings is anticipated to be 8.57 cents.

Investors most commonly compare the earnings yield of a stock to that of a broad market index (such as the S&P 500) and prevailing interest rates, such as the current 10-year Treasury yield. Since bonds and stocks compete for investors' dollars, stock investors typically demand a higher yield for the extra risk they assume compared to investors of U.S. Treasury-backed securities that offer virtually risk-free returns. This additional return is referred to as the risk premium.

Debt/Equity Ratio: The debt-to-equity ratio is calculated as a company's total liabilities divided by its shareholder equity. This metric is used to gauge a company's financial leverage. In other words, it is a measure of the degree to which a company is financing its operations through debt versus its own funds. The higher the ratio, the higher the risk for shareholders.

However, this ratio is difficult to compare across industry groups where ideal amounts of debt vary. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-equity ratio should be compared with other companies in the same industry.

Cash Flow (\$/share): Cash flow per share is calculated as operating cash flow (after-tax earnings + depreciation + other non-cash charges) divided by common shares outstanding. It is used by many investors as a measure of a company's financial strength. Since cash flow per share takes into consideration a company's ability to generate cash by adding back non-cash expenses, it is regarded by some as a more accurate measure of a company's financial situation than earnings per share, which could be artificially deflated.

Current Ratio: The current ratio or liquidity ratio is a company's current assets divided by its current liabilities. It measures a company's ability to pay short-term obligations. A current ratio that is in line with the industry average or slightly higher is generally considered acceptable. A current ratio that is lower than the industry average would indicate a higher risk of distress or default. A higher number is usually better. However, a very high current ratio compared to the industry average could be an indication of inefficient use of assets by management.

Debt/Capital Ratio: Debt-to-capital ratio is a company's total debt (interest-bearing debt + both short- and long-term liabilities) divided its total capital (interest-bearing debt + shareholders' equity). It is a measure of a company's financial leverage. All else being equal, the higher the debt-to-capital ratio, the riskier the stock.

However, this ratio can vary widely from industry to industry, the ideal amount of required debt being different. Some businesses are more capital intensive than others and typically require higher debt to finance their operations. So, a company's debt-to-capital ratio should be compared with the same for its industry.

Net Margin: Net margin is calculated as net income divided by sales. It shows how much of each dollar in sales generated by a company translates into profit. For example, if a company's net margin is 15%, its net income is 15 cents for every \$1 of sales it makes.

A change in margin can reflect either a change in business conditions, or a company's cost controls, or both. If a company's expenses are growing faster than sales, its net margin will decline. However, different net margin rates are considered good for different industries, so it's better to compare net margin rates of companies in the same industry group.

Return on Equity: Return on equity (ROE) is calculated as trailing-12-month net income divided by trailing-12-month average shareholder equity (including reinvested earnings). This metric is considered a measure of how effectively management is using a company's assets to generate profits. For example, if a company's ROE is 10%, it creates 10 cents profits for every \$1 shareholder equity, which is basically the company's assets minus debt. A company's ROE deemed good or bad depends on what's normal for its peers or industry group.

Sales/Assets Ratio: The sales-to-assets ratio or asset utilization ratio or asset turnover ratio is calculated as a company's annual sales divided by average assets (average of assets at the beginning of the year and at the year's end). This metric helps investors understand how effectively a company is using its assets to generate sales. For example, a sales-to-assets ratio of 2.5 indicates that the company generated \$2.50 in sales for every \$1 of assets on its books.

The higher the sales-to-assets ratio, the better the company is performing. However, similar to many other ratios, the asset turnover ratio tends to be higher for companies in certain industries/sectors than in others. So, a company's sales-to-assets ratio should be compared with the same for its industry/sector.

Historical EPS Growth (3-5 Years): This is the average annual (trailing-12-month) EPS growth rate over the last 3-5 years. This metric helps investors see how a company's EPS has grown from a long-term perspective.

Note: There are many factors that can influence short-term numbers — a recession will reduce this number, while a recovery will inflate it. The longterm perspective helps smooth out short-term events.

Projected EPS Growth (F1/F0): This is the estimated EPS growth rate for the current financial year. It is calculated as the consensus estimate for the current fiscal year (F1) divided by the reported EPS for the last completed fiscal year (F0).

Current Cash Flow Growth: It measures the latest year-over-year change in operating cash flow. Cash flow growth tells an investor how quickly a company is generating inflows of cash from operations. A positive change in the cash flow is desired and shows that more 'cash' is coming in than going out.

Historical Cash Flow Growth (3-5 Years): This is the annualized change in cash flow over the last 3-5 years. The change in a longer period helps put the current reading into proper perspective. By looking at the rate, rather than the actual dollar value, the comparison across the industry and peers becomes easier.

Projected Sales Growth (F1/F0): This metric looks at the estimated sales growth for the current year. It is calculated as sales estimate for the current fiscal year (F1) divided by the reported sales for the last completed fiscal year (F0).

Like EPS growth, a higher rate is better for sales growth. A look at a company's projected sales growth instantly tells you what the outlook is for their products and services. However, different sales growth rates are considered good for different industries, so it's better to compare sales growth rates of companies in the same industry group.

EPS F1 Estimate 1-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past week. The change in a company's consensus EPS estimate (or earnings estimate revision) has proven to be strongly correlated with the near-term price movement of its shares. It is an integral part of the Zacks Rank.

If a stock's consensus EPS estimate is \$1.10 now versus \$1.00 a week ago, that will be reflected as a 10% upward revision. If, on the other hand, it went from \$1.00 to 90 cents, that would be a 10% downward revision.

EPS F1 Estimate 4-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past four weeks.

A stock's earnings estimate revision in a 1-week period is important. But it's more meaningful to look at the longer-term revision. And, of course, the 4-week change helps put the 1-week change into proper perspective.

EPS F1 Estimate 12-Week Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal year over the past 12 weeks.

This metric essentially shows how the consensus EPS estimate has changed over a period longer than 1 week or 4 weeks.

EPS Q1 Estimate Monthly Change: The percentage change in the Zacks Consensus EPS estimate for the current fiscal quarter over the past four weeks.

While the revision in consensus EPS estimate for the current fiscal year is strongly correlated with the near-term price movement of its shares, the estimate revision for the current fiscal quarter is an important metric as well, especially over the short term, and particularly as a stock approaches its earnings date. If a stock's Q1 EPS estimate decreases ahead of its earnings release, it's usually a negative sign, whereas an increase is a positive sign.