

IPG Photonics Corp (IPGP)

\$235.19 (As of 01/07/21)

Price Target (6-12 Months): **\$252.00**

Long Term: 6-12 Months

Zacks Recommendation:
Neutral

(Since: 01/04/21)

Prior Recommendation: Outperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:D

Value: D

Growth: C

Momentum: C

Summary

IPG Photonics is well-positioned to gain from increasing demand across electric vehicle battery processing and advanced applications. Robust uptick in demand for devices used in the medical industry also augurs well. Continued momentum in higher power products in core materials processing domain and strength in new solutions are expected to bolster the top line along with strength in its fiber & diode lasers, fiber amplifiers and transceivers portfolio. The company is also witnessing solid bookings growth in China. Notably, shares have outperformed the industry in the past one year. However, soft demand for welding, cutting and marking applications along with challenging business environment owing to global economic downturn amid coronavirus induced crisis, remains a headwind. The company provided bleak guidance for fourth-quarter revenues.

Data Overview

52-Week High-Low	\$246.55 - \$98.04
20-Day Average Volume (Shares)	199,074
Market Cap	\$12.5 B
Year-To-Date Price Change	5.1%
Beta	1.48
Dividend / Dividend Yield	\$0.00 / 0.0%
Industry	Lasers Systems and Components
Zacks Industry Rank	Bottom 8% (233 out of 253)

Last EPS Surprise	44.9%
Last Sales Surprise	5.7%
EPS F1 Estimate 4-Week Change	0.0%
Expected Report Date	02/11/2021
Earnings ESP	0.0%

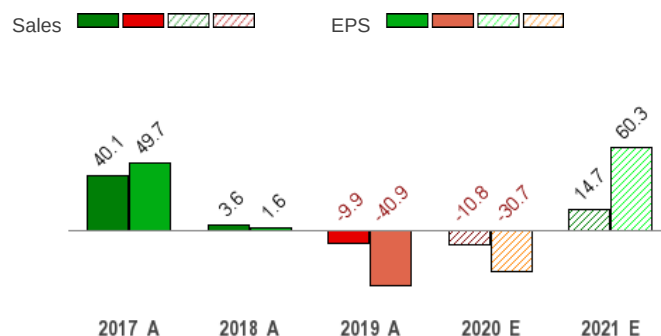
P/E TTM	67.0
P/E F1	48.6
PEG F1	6.2
P/S TTM	10.7

Price, Consensus & Surprise



Source: Zacks Investment Research

Sales and EPS Growth Rates (Y/Y %)



Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	306 E	339 E	351 E	351 E	1,345 E
2020	249 A	296 A	318 A	275 E	1,173 E
2019	315 A	364 A	329 A	307 A	1,315 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$0.96 E	\$1.17 E	\$1.29 E	\$1.28 E	\$4.84 E
2020	\$0.40 A	\$0.91 A	\$1.29 A	\$0.95 E	\$3.02 E
2019	\$1.02 A	\$1.42 A	\$1.08 A	\$0.91 A	\$4.36 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 01/07/2021. The reports text is as of 01/08/2021.

Overview

Oxford, MA-based IPG Photonics Corp develops and manufactures fiber & diode lasers, fiber amplifiers and transceivers that are used for diverse applications, like materials processing, advanced applications, communications and medical.

IPG Photonics' laser products include low (1 to 99 watts), medium (100 to 999 watts) and high (1,000 watts and above) output power lasers from 0.3 to 4.5 microns in wavelength.

These lasers may be continuous wave (CW), quasi-continuous wave (QCW) or pulsed. The company's pulsed line includes nanosecond, picosecond and femtosecond lasers.

The company offers several different types of lasers according to the type of gain medium they use. These are ytterbium, erbium and thulium, as well as Raman and hybrid fiber-crystal lasers.

IPG Photonics' amplifier products range from milliwatts to up to 1,500 watts of output power from 1 to 2 microns in wavelength.

The company offers erbium-doped fiber amplifiers (EDFAs), Raman amplifiers, ytterbium & thulium specialty fiber amplifiers and broadband light sources.

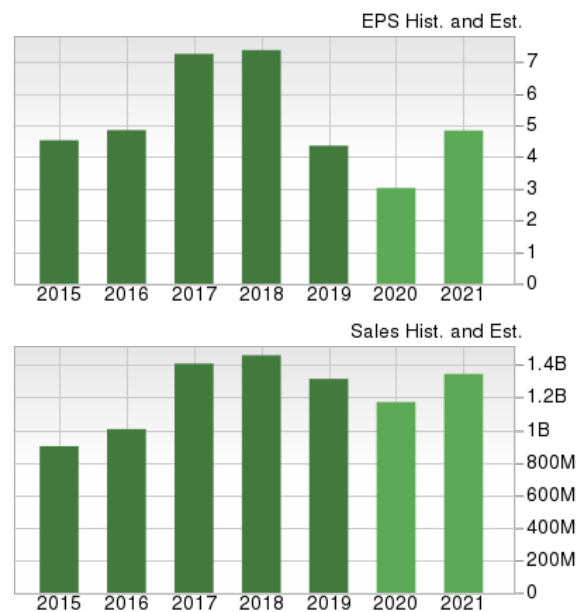
Moreover, its transceivers provide interconnect, coarse wavelength division multiplexing (CWDM), DWDM, and tunable-based pluggable interfaces to serve optical transmission needs from 100 meters over multimode fiber to over 1,200 kilometers. The company added this product portfolio through the acquisition of Menara Networks.

IPG Photonics reported total revenues of \$1.314 billion in 2019.

Geographically, United States and other North America, China, Germany and Japan contributed 21.4%, 37.4%, 6.2% and 5.5%, respectively to 2019 revenues.

Meanwhile, Other Eastern Europe/CIS, Other Asia and Australia, and Rest of the World accounted for 19%, 9.2% and 1.3%, respectively to 2019 revenues.

The company faces competition from the likes of Coherent, nLight, Maxphotonics, Raycus Fiber Laser Technologies, and Lumentum Holdings among others.



Source: Zacks Investment Research

Reasons To Buy:

- ▲ IPG Photonics is regarded as the pioneer and leader of the fiber lasers technology market. The company has a dominant position in the core material processing market on the back of its expertise in handling fiber lasers, which are more reliable, efficient, robust, compact and easier to operate than conventional lasers. Improvements in their output power levels and cost, as well as superior performance and lower cost of ownership have been driving the adoption of fiber-lasers. Management noted that use of high-strength steel and aluminum in automotive manufacturing and decreasing the weight of vehicles are driving the use of fiber lasers over other manufacturing methods such as stamping, non-laser welding, riveting and adhesives. Other trends, such as miniaturization of parts and electronics are driving adoption of lasers because no other tools can work as precisely. We believe that growing usage of fiber laser bodes well for IPG Photonics in the long run. Moreover, the company's strong IP base, which includes more than 400 patents issued and over 450 pending patent applications worldwide (as of Dec 31, 2019), is a key catalyst.
- ▲ IPG Photonics' vertically integrated business model is a key differentiator, in our view. This not only helps it to maintain technological lead but also keep costs of production significantly lower as evident from gross margin expansion over the three years. This has also aided the company to continue investments on product development. We also note that its research & development (R&D) expense in 2019 increased 5.9% over 2018. Despite this incremental investment, the company posts industry-leading operating margin. In the long-term management forecasts gross margin in the range of 50–55% and operating margin in the range of 32–37% and aims to deliver double-digit revenue growth.
- ▲ Further, acquisitions have helped the company to expand its product portfolio. In November 2018, the company inked a deal to acquire privately held Genesis Systems Group (Genesis). The acquisition will help IPG Photonics to evolve as a provider of welding solutions and strategic partner to end customers. In 2016, the company acquired Menara Networks, which helped in expanding telecom product offering to include pluggable optical transceivers. The acquisitions of Innovative Laser Technologies (ILT) and OptiGrate Corp are positive. ILT offers precision laser systems, with a focus on the medical device industry. IPG Photonics believes that the acquisition will strengthen presence in the medical vertical, simultaneously expanding ILT's addressable market into other verticals that require precision laser solutions. OptiGrate is a manufacturer of volume Bragg grating (VBG)-based filters and components. Bragg gratings are key components in all fiber lasers. OptiGrate's products enable performance improvement, miniaturization, and cost reduction of ultrafast pulsed lasers. The company supplies holographic optical elements to customers in optoelectronic, analytical, medical, defense, and other industries and also has strong clientele. The addition of OptiGrate is expected to assist the company easily develop the new ultrafast pulsed lasers.
- ▲ IPG Photonics is gradually expanding into new end-markets like advanced applications (3D Printing, Cinema, and micro-materials processing), communications and medical based on robust product portfolio and strong intellectual property (IP). IPG anticipates total addressable market (TAM) to hit \$12 billion in 2023, from estimated figure of \$10 billion in 2019, which presents significant growth prospects. IPG Photonics plans to expand the wavelengths at which its lasers currently operate in the near future. This includes UV, orange, red, green lasers and mid-infrared lasers for fine and micro processing, projection as well as other novel applications. IPG Photonics is in the process of developing pulsed fiber lasers with ultra-short pulse durations, pulsed and QCW lasers with high peak powers and mid infra-red lasers. Moreover, the company is developing new medical applications using fiber lasers for urological and dental procedures. The expansion into new end-markets will eventually lower exposure to the core material processing market, which is positive for investors over the long term.
- ▲ Management execution has been good in recent times. The solid net-cash balance of \$1.27 billion as of Sep 30, 2020, up from \$1.21 billion as of Jun 30, 2020, provides the flexibility required to pursue any growth strategy, whether by way of acquisitions or otherwise. Moreover, total debt to total equity of 1.6% is much lower than the industry's figure of 24.6%. Additionally, the strong balance sheet helps IPG Photonics to continue shareholder friendly initiatives like share repurchases. Notably, lower number of outstanding shares drive the bottom line. IPG Photonics repurchased stock worth \$10 million during the third quarter. Moreover, the company generated \$70 million in cash flow from operations in third quarter. Strength in cash flows indicates that the company is investing in the right direction.

Dominant position in the core material processing market, vertically integrated business model, industry-leading operating margins and expansion in TAM are key positives.

Reasons To Sell:

- ▼ IPG Photonics' significant exposure to the materials processing markets is a key headwind. Revenues from material processing offerings accounted for 93.5% of total 2019 revenues. Any downturn in this market will significantly impact top-line growth.
- ▼ Additionally, the company faces customer concentration risk in terms of geographic location. In 2019, 37.4% of the company's sales were derived from China and 19% of revenues were derived from Other including Eastern Europe/CIS. Moreover, five largest customers accounted for approximately 21% of revenues in 2019, which is a substantial risk. Loss of any of these major customers can hurt top-line growth, which is a concern.
- ▼ The company generates a significant portion of its revenues (78.6% in 2019) from the International market. Hence, we anticipate adverse foreign currency exchange rates to impede revenue growth in the near term owing to fluctuation in the U.S. dollar as against the Chinese renminbi, Russian Ruble, the Euro and other foreign currencies.
- ▼ Although gross margin has expanded in the last couple of years, we believe that unfavorable product mix – due to increasing percentage of lower margin high-power lasers – will hurt gross margin. Further, being a vertically integrated company – fixed costs – particularly related to direct labor is significantly high for IPG Photonics. This is a major headwind as the company may not be able to maneuver this fixed cost in case of a revenue shortfall.
- ▼ Moreover, the company is trading at premium in terms of Price/Earnings (P/E). IPG Photonics currently has a trailing 12-month P/E ratio of 67.01X. This level compares unfavorably with what the industry witnessed in the last year. Additionally, the ratio is higher than the average level of 47.21X and is towards the high end of the valuation range in this period. Consequently, the valuation looks slightly stretched from P/E perspective.

IPG's significant exposure to the materials processing markets, dependency on few customers and substantial China exposure are likely to negatively impact financial performance.

Last Earnings Report

IPG Photonics Q3 Earnings & Revenues Decline Y/Y

IPG Photonics Corporation reported third-quarter 2020 earnings of 66 cents per share, down 38% over the year-ago quarter. Management had projected earnings between 70 cents and \$1.00 per share.

Notably, favorable foreign-exchange movement contributed 15 cents to the bottom-line growth but goodwill impairment charge reduced it by 63 cents.

Revenues of \$318.4 million fell 3% on a year-over-year basis. IPG Photonics had anticipated revenues in the range of \$280-\$310 million.

The company delivered better-than-anticipated results as strong bookings growth in China drove performance. It witnessed modest uptick in order trends across Europe as well. The company anticipates gaining from strength in new products.

The Zacks Consensus Estimate for third-quarter earnings and revenues was pegged at 89 cents and \$301.2 million, respectively.

Quarter Ending	09/2020
Report Date	Oct 30, 2020
Sales Surprise	5.72%
EPS Surprise	44.94%
Quarterly EPS	1.29
Annual EPS (TTM)	3.51

Revenues by Application

Materials processing (91% of total revenues) declined 5% year over year to \$271.7 million, due to soft demand for welding, cutting and marking applications.

Revenues from other applications (9%) improved 24% year over year, driven by growing traction of advanced applications and solid uptick in devices utilized in medical procedures.

Quarter in Detail

Sales of high-power continuous wave ("CW") lasers (58% of total revenues) were flat with the year-ago quarter.

However, management noted growth in ultra-high power fiber lasers (6 kilowatts of power or greater), which represented 58% of all high power CW laser sales.

By geography, sales climbed 22% in China, and declined 10% in Europe, 41% in Japan and 26% in North America on a year-over-year basis.

Operating Details

IPG Photonics reported gross margin of 48%, which expanded 160 basis points (bps) on a year-over-year basis. This can be attributed to low-cost production capabilities despite lower revenue base.

Operating expenses surged 41.5% to \$111.4 million. As a percentage of revenues, operating expenses expanded from 23.9% reported in the year-ago quarter to 35%.

Operating margin contracted to 13% from 22.5% reported in the year-ago quarter.

Balance Sheet & Cash Flow

As of Sep 30, 2020, IPG Photonics had \$1.302 billion in cash & cash equivalents and short-term investments compared with \$1.249 billion as of Jun 30, 2020.

As of Sep 30, 2020, total debt (including current portion) came in at \$38.9 million, down from \$39.9 million as of Jun 30, 2020.

The company generated \$70 million in cash flow from operations compared with the prior-quarter figure of \$73.5 million.

The company repurchased stock worth \$10 million during the third quarter. Capital expenditures came in at \$25 million compared with \$20 million in the prior quarter.

Guidance

For fourth-quarter 2020, IPG Photonics anticipates sales to be \$290-\$320 million. Earnings are projected between 75 cents and \$1.05 per share.

Recent News

On Nov 5, IPG Photonics introduced LightWELD handheld laser welding system. The LightWELD product line is aimed at facilitating fabricators to tap gains from increased flexibility, precision and simplified use powered by laser-based solutions compared with traditional welding products.

On Jul 15, IPG Photonics rolled out new YLR-U series near-infrared industrial-grade compact 1 ?m continuous wave (CW) ytterbium fiber lasers. The lasers offer high performance in an ultra-compact form factor in a power efficient manner.

On Mar 5, IPG Photonics unveiled support for bi-directional, single fiber transmission in order to strengthen coherent modules portfolio. Further, the company mentioned about the extension of temperature operations in its Hytham line of coherent transceiver modules branded Menara.

Valuation

IPG Photonics' shares are up 48.4% in past six-month period and 74.4% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 37.6% and 23.3% in the past six-month period, respectively. In the past year, the Zacks sub-industry and the sector are up 38.1% and 34.7%, respectively.

The S&P 500 index is up 20.9% in the past six-month period and 18.1% in the past year.

The stock is currently trading at 48.36X forward 12-month earnings compared with 17.37X for the Zacks sub-industry, 28.68X for the Zacks sector and 23.31X for the S&P 500 index.

Over the past five years, the stock has traded as high as 49.84X and as low as 14.67X, with a five-year median of 23.86X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$252 price target reflects 51.82X forward 12-month earnings.

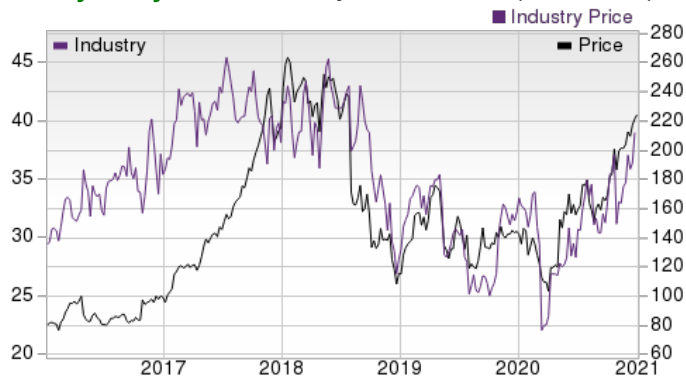
The table below shows summary valuation data for IPGP

Valuation Multiples - IPGP					
		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	48.36	17.37	28.68	23.31
	5-Year High	49.84	29.4	28.68	23.79
	5-Year Low	14.67	14.09	16.94	15.3
	5-Year Median	23.86	21.03	19.93	17.82
P/S F12M	Current	9.29	5.17	4.85	4.53
	5-Year High	9.29	5.83	4.85	4.53
	5-Year Low	3.9	2.29	2.77	3.21
	5-Year Median	5.56	4.22	3.47	3.67
EV/Sales TTM	Current	9.63	9.61	5.45	4.51
	5-Year High	9.63	9.61	5.46	4.51
	5-Year Low	3.09	3.09	2.85	2.62
	5-Year Median	5.01	5.01	3.89	3.59

As of 01/07/2021

Source: Zacks Investment Research

Industry Analysis Zacks Industry Rank: Bottom 8% (233 out of 253)



Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
Cutera, Inc. (CUTR)	Neutral	3
IIVI Incorporated (IIVI)	Neutral	3
IRIDEX Corporation (IRIX)	Neutral	4
nLight Inc. (LASR)	Neutral	2
Lumentum Holdings Inc. (LITE)	Neutral	4
MKS Instruments, Inc. (MKS)	Neutral	3
Microvision, Inc. (MVIS)	Neutral	NA
Coherent, Inc. (COHR)	Underperform	5

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

Industry Comparison Industry: Lasers Systems And Components				Industry Peers		
	IPGP	X Industry	S&P 500	COHR	LASR	LITE
Zacks Recommendation (Long Term)	Neutral	-	-	Underperform	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	5	2	4
VGM Score	D	-	-	C	C	B
Market Cap	12.54 B	50.75 M	27.00 B	4.18 B	1.33 B	7.90 B
# of Analysts	4	2	13	2	3	8
Dividend Yield	0.00%	0.00%	1.43%	0.00%	0.00%	0.00%
Value Score	D	-	-	D	F	C
Cash/Price	0.11	0.10	0.06	0.13	0.09	0.23
EV/EBITDA	29.52	-2.98	14.94	-1,792.82	6,407.76	15.70
PEG F1	6.37	2.77	2.64	NA	NA	NA
P/B	5.07	4.35	3.75	4.48	6.07	4.35
P/CF	33.92	31.90	14.29	9.07	1,413.14	13.40
P/E F1	50.26	33.23	20.74	34.99	91.14	16.98
P/S TTM	10.71	2.72	2.97	3.40	6.64	4.70
Earnings Yield	2.06%	2.06%	4.71%	2.86%	1.10%	5.89%
Debt/Equity	0.01	0.01	0.70	0.44	0.00	0.62
Cash Flow (\$/share)	6.93	-0.01	6.93	18.87	0.02	7.81
Growth Score	C	-	-	B	A	A
Historical EPS Growth (3-5 Years)	-3.12%	-3.12%	9.71%	-12.14%	NA	55.27%
Projected EPS Growth (F1/F0)	60.07%	33.46%	12.21%	63.00%	217.13%	13.65%
Current Cash Flow Growth	-24.01%	-28.15%	5.22%	90.80%	-94.94%	25.25%
Historical Cash Flow Growth (3-5 Years)	9.29%	10.12%	8.33%	31.56%	NA	49.14%
Current Ratio	10.09	2.77	1.38	4.52	4.58	7.38
Debt/Capital	1.40%	8.72%	41.97%	30.72%	0.09%	38.45%
Net Margin	9.04%	-3.73%	10.40%	-33.70%	-13.57%	9.22%
Return on Equity	7.76%	-11.65%	15.20%	3.41%	-9.52%	21.41%
Sales/Assets	0.43	1.03	0.50	0.65	0.74	0.51
Projected Sales Growth (F1/F0)	14.74%	17.33%	5.91%	10.14%	15.43%	6.17%
Momentum Score	C	-	-	D	D	B
Daily Price Change	4.81%	0.94%	0.85%	11.80%	5.08%	1.88%
1-Week Price Change	1.28%	-0.95%	1.16%	0.37%	-4.84%	-3.56%
4-Week Price Change	13.66%	7.87%	3.64%	25.50%	-1.23%	18.42%
12-Week Price Change	26.47%	-2.84%	13.45%	45.53%	47.38%	25.22%
52-Week Price Change	68.43%	7.90%	8.02%	-0.78%	61.42%	28.36%
20-Day Average Volume (Shares)	199,074	147,950	1,694,173	161,632	239,520	1,017,365
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
EPS F1 Estimate 4-Week Change	0.00%	0.00%	0.08%	0.00%	0.00%	0.00%
EPS F1 Estimate 12-Week Change	4.18%	4.18%	2.45%	-30.72%	41.30%	8.68%
EPS Q1 Estimate Monthly Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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	D
Growth Score	C
Momentum Score	C
VGM Score	D

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.