

Vertex Pharmaceuticals (VRTX)

\$215.09 (As of 11/04/20)

Price Target (6-12 Months): **\$226.00**

Long Term: 6-12 Months

Zacks Recommendation:

Neutral

(Since: 09/25/20)

Prior Recommendation: Outperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:A

Value: B

Growth: B

Momentum: A

Summary

Vertex beat estimates for Q3 earnings and sales. Vertex's sales in 2020 are being driven by rapid uptake of Trikafta and higher international revenues due to reimbursement arrangements in key ex-U.S. countries. Trikafta's early approval and launch was a significant milestone for Vertex. Trikafta is crucial for Vertex's long-term growth as it has the potential to treat up to 90% of CF patients. Meanwhile, Vertex's non-CF pipeline is progressing rapidly with data in multiple diseases expected through the end of 2021. Business development is also a priority and Vertex has collaborations with several companies. However, competitive pressure is rising in the CF market. Also, Vertex's dependence on just the CF franchise for commercial revenues is a concern. The stock has outperformed the industry this year so far.

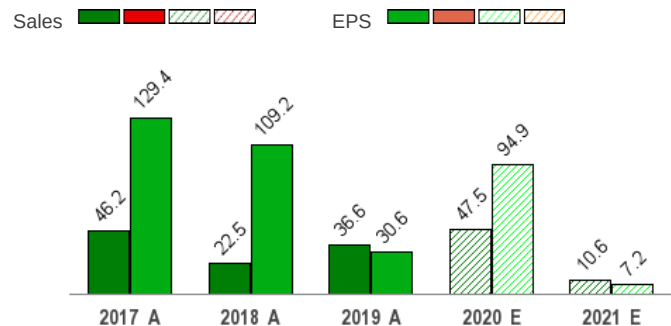
Price, Consensus & Surprise



Data Overview

52-Week High-Low	\$306.08 - \$195.11
20-Day Average Volume (Shares)	3,076,627
Market Cap	\$55.9 B
Year-To-Date Price Change	-1.8%
Beta	0.79
Dividend / Dividend Yield	\$0.00 / 0.0%
Industry	Medical - Biomedical and Genetics
Zacks Industry Rank	Bottom 24% (190 out of 250)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	10.5%
Last Sales Surprise	3.4%
EPS F1 Estimate 4-Week Change	7.4%
Expected Report Date	02/04/2021
Earnings ESP	0.0%
P/E TTM	22.6
P/E F1	20.7
PEG F1	0.7
P/S TTM	9.3

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2021	1,648 E	1,686 E	1,714 E	1,770 E	6,788 E
2020	1,515 A	1,524 A	1,538 A	1,569 E	6,139 E
2019	858 A	941 A	950 A	1,413 A	4,163 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2021	\$2.70 E	\$2.74 E	\$2.72 E	\$2.79 E	\$11.14 E
2020	\$2.56 A	\$2.61 A	\$2.64 A	\$2.61 E	\$10.39 E
2019	\$1.14 A	\$1.26 A	\$1.23 A	\$1.70 A	\$5.33 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 11/04/2020. The reports text is as of 11/05/2020.

Overview

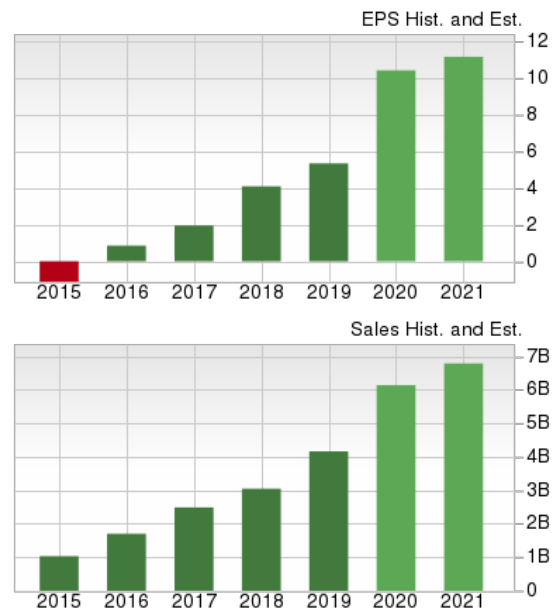
Boston, MA-based Vertex Pharmaceuticals Incorporated is focused on the discovery, development, and commercialization of small molecule drugs targeting serious diseases. The company's main area of focus is cystic fibrosis (CF).

The company's lead marketed products are Trikafta (elexacaftor/tezacaftor/ivacaftor and ivacaftor), Symdeko/Symkevi (tezacaftor in combination with ivacaftor), Orkambi (lumacaftor in combination with ivacaftor) and Kalydeco (ivacaftor), which are collectively approved to treat the majority of the people with CF in North America, Europe and Australia. Trikafta, Vertex's triple combination regimen, was approved by the FDA in October 2019 for the treatment of CF in people aged 12 years and older who have at least one F508del mutation. Kafrio (brand name of Trikafta in EU) was approved in the European Union in August 2020. It is also being evaluated in younger patients in the United States. With approval of Trikafta, Vertex can address a significantly larger CF patient population — almost 90% of patients with CF — in the future. Meanwhile, Vertex is pursuing genetic therapies to address the remaining 10% of CF patients.

While CF remains the main area of focus, Vertex is also developing treatments for sickle cell disease, thalassemia and pain management.

Pimodivir/VX-787, for the treatment of influenza, was out-licensed to Janssen in 2014 while oncology candidates VX-970, VX-984 and VX-803 were divested to Merck KGaA in 2017.

The company recorded total revenues of \$4.16 billion in 2019, up 37%. Orkambi accounted for 29.4% of the company's total product revenues, Kalydeco accounted for 24.7%, Symdeko accounted for 35.4% and Trikafta comprised 10.5% of the same.



Source: Zacks Investment Research

Reasons To Buy:

▲ **Shares Outperforming Industry:** Though Vertex's shares have declined 1.8% this year so far, they have still outperformed a decrease of 6.4% for the industry.

▲ **Consistent Rise in CF Product Sales:** Consistent positive regulatory approvals have led to an increase in the eligible patient population for Vertex's approved medicines in the past 2-3 years. In 2019 alone, Vertex received nine new regulatory approvals or label expansions for its CF medicines globally. Also, in 2019, Vertex reached a number of key reimbursement agreements in important ex-U.S. countries like England and France, which expanded access to its CF medicines. With consistent expansion in patient population, Vertex's CF product revenues rose 29% in 2017, 40% in 2018 and 32% in 2019. With the approval of Trikafta, approximately 45,000 patients worldwide are now eligible to be treated with one of Vertex's four CF medicines. Vertex's revenue growth in 2020 is primarily being driven by the uptake of Trikafta as well as higher international revenues due to additional ex-U.S. reimbursement arrangements.

The rapid approval of Vertex's triple combo CF pill, Trikafta, was a big boost. Reimbursement approval in England for its CF drugs removed a key overhang.

In 2021, approval of Trikafta/Kaftrio in additional geographies, reimbursement agreements for Kaftrio in EU countries, and approval of all CF medicines for younger patient populations and additional mutations could bring additional revenues for Vertex.

▲ **Strong CF Portfolio:** The CF market represents huge commercial potential. Vertex enjoys a strong position in this market, being the first company to successfully develop a drug (Kalydeco) that treats the underlying cause of CF.

Symdeko generated sales of \$1.4 billion in 2019. In June 2019, Vertex gained FDA approval for Symdeko in eligible patients as young as six years of age. This label expansion coupled with launch of Symkevi in additional European countries further boosted sales.

Trikafta's early approval and launch in the United States was the most significant milestone for Vertex. In the EU, Kaftrio was approved in August 2020. Trikafta and Kaftrio added access to another 16,000 eligible patients. Meanwhile, phase III studies are also ongoing to evaluate Trikafta in children aged 6 through 11. A supplemental new drug application (sNDA) seeking approval for the pediatric patient population is expected to be filed in the fourth quarter of 2020. A phase III study has also been initiated to study Trikafta in ages 2-5 years. Reimbursement approvals of Kaftrio in EU countries and approval for younger patient populations could bring additional Trikafta revenues in 2021.

Trikafta/ Kaftrio is crucial for Vertex's long-term growth as it has the potential to treat up to 90% of CF patients.

▲ **Upside Potential from Non-CF Pipeline:** While Vertex's main focus is on the development and strengthening of its CF franchise, the company also has a rapidly advancing early-stage portfolio in five other specialty disease areas like pain, alpha-1 antitrypsin deficiency (AAT), sickle cell disease, beta-thalassemia and APOL1-mediated kidney diseases.

Vertex is co-developing a gene editing treatment, CTX001 in partnership with CRISPR Therapeutics in two devastating diseases — sickle cell disease and thalassemia. Phase I/II studies of CTX001 in adult transfusion-dependent β -thalassemia in Europe and sickle cell disease in the United States are ongoing. First safety and efficacy data from the studies were positive with additional data including more patients and longer durations of follow-up expected by year-end. In June 2019, Vertex announced expansion of its collaboration with CRISPR Therapeutics and acquisition of privately held Exonics Therapeutics to boost its gene editing capabilities to develop novel therapies for Duchenne muscular dystrophy ("DMD") and Myotonic dystrophy type 1 (DM1).

A phase II study on Vertex's small molecule corrector for the AAT disease, VX-864 was initiated in July. VX-864 has received Fast-Track Designation from the FDA. Data from the study is expected in the first half of 2021.

Enrollment is underway in a phase II study on VX-147, its first oral small molecule medicine in APOL1-mediated focal segmental glomerulosclerosis (FSGS). Data from the study is expected in 2021.

Vertex is also looking for early stage companies and products or intellectual property acquisitions that could help it broaden its pipeline beyond CF.

▲ **Collaborations Broadening Pipeline:** Vertex's success in CF has given it the financial strength to invest in both internal and external innovation. Vertex has entered into multiple agreements in the past couple of years to provide it with access to new external scientific technologies, programs and expertise in multiple diseases to complement its internal pipeline. It has such collaborations with CRISPR Therapeutics, Moderna, Affinia Therapeutics, Arbor Biotechnologies, Kymera Therapeutics, among others. Vertex also owns equity investment in CRISPR. Vertex plans to pursue more business development transactions to bolster its pipeline for serious diseases with multiple modalities and technologies.

In October 2019, Vertex acquired Semma Therapeutics to develop a cellular therapy that both alone and in combination with an implantable device has the potential to cure type I diabetes. Clinical studies are expected to be initiated in 2021. In 2019, Vertex invested approximately \$1.6 billion in cash in external innovation through new acquisitions and collaborations.

▲ **Favorable Debt Profile:** As of Sep 30, 2020, Vertex had \$546.5 million in long-term debt (finance lease liabilities) on its balance sheet. Cash and cash equivalents totaled approximately \$5.36 billion. Its cash position is sound and the company is more than sufficient to pay the debt in case of insolvency. Its debt/capital ratio was 6.3% at the end of September 2020, lower than 6.5% at the end of June 2020. A lower ratio indicates lower financial risk. Meanwhile, its times interest earned ratio stands at 52.8%, higher than 40.3% at the end of June 2020. A higher ratio indicates that the company is capable of meeting its interest obligations from operating earnings.

Reasons To Sell:

- ▼ **Trikafta Launch Cannibalizing Sales of Other Drugs:** A large proportion of U.S. patients currently on Kalydeco, Orkambi or Symdeko are switching to Trikafta (where the indications are overlapping), which is eroding sales of the older drugs. We expect that once Trikafta is fully launched in the United States and EU and gains necessary reimbursement approvals in EU, there will be a rapid erosion of existing combinations.

Also, though Trikafta/Kaftrio is approved in EU, Vertex would need to seek government reimbursement on a country-by-country basis, in most European markets, which is a time consuming process and may limit ex-U.S. revenues of the drug. Also, Vertex launched Kaftrio virtually in the peak of the pandemic, which creates uncertainty about the actual rate and level of uptake in Europe

Vertex's dependence on just the CF franchise for growth is concerning. Moreover, several other companies are working on bringing their CF products to market.

- ▼ **Competing Therapies in Development:** Several companies like AbbVie, Eloxx Pharmaceuticals, Translate Bio and Proteostasis Therapeutics are developing medicines to treat CF. Even though Vertex enjoys a strong position in this market, the entry of additional competition would cut into revenues.
- ▼ **Banking on CF Franchise:** Although we are positive on Vertex's decision to focus on the CF franchise, we remain concerned about the company's dependence on just this franchise for growth. While the company does have other pipeline candidates targeting other therapeutic areas, it is too early to get excited about them.
- ▼ **Pipeline/Regulatory Setbacks:** Vertex has several studies ongoing with its CF product candidates and any negative development on the pipeline/regulatory front will have an adverse impact on shares. In October 2017, Vertex announced that it will not file regulatory applications for VX-661 - ivacaftor combination in CF patients with one copy of the F508del mutation and one copy of a gating mutation, as a phase III study evaluating VX-661 — ivacaftor use in such patients failed to meet the primary endpoint.

In October 2018, Vertex discontinued development of VX-210 (acute cervical spinal cord injuries) due to futility. In October 2020, Vertex discontinued the phase II study on VX-814 for AATD, based on the liver enzyme elevations observed and the determination that it would be difficult to safely achieve targeted exposure levels.

Last Earnings Report

Vertex Beats on Q3 Earnings & Sales, Ups Sales View

Vertex reported third-quarter 2020 adjusted earnings per share of \$2.64, which beat the Zacks Consensus Estimate of \$2.39. Moreover, earnings rose 115% year over year. Strong CF product revenues led to higher earnings in the reported quarter.

Revenues of \$1.54 billion also surpassed the Zacks Consensus Estimate of \$1.49 billion, comprising almost fully of CF product revenues. The company recorded minimal collaborative revenues during the reported quarter. Total revenues rose 62% year over year, driven by the rapid uptake of Trikafta in the United States. Moreover, higher international revenues due to the reimbursement approvals received for Orkambi and Symkevi in some international markets in 2019 also drove revenues.

Quarter Ending 09/2020

Report Date	Oct 29, 2020
Sales Surprise	3.38%
EPS Surprise	10.46%
Quarterly EPS	2.64
Annual EPS (TTM)	9.51

CF Franchise Sales Strong

Trikafta generated sales worth \$960 million, compared with \$918 million in the second quarter of 2020. The drug has seen solid uptake in the United States since its launch in October last year and has been a key growth driver for Vertex's growth. Trikafta was approved by the brand name of Kaftrio in Europe in August, which is expected to contribute to international revenues in the fourth quarter and beyond. Kaftrio has been launched virtually in EU countries of Germany, England, Ireland, Scotland, Wales and Denmark

Regarding Trikafta's launch, the company said that the majority of the eligible patients have now initiated treatment with the medicine. The company said that the compliance and persistence rates and patient inventory levels for Trikafta seen to date with the launch are high. The higher-than-normal patient inventory levels could result in some inventory drawdowns in the post-COVID period.

Symdeko/Symkevi registered sales of \$156 million in the quarter, down 61.4% year over year.

Kalydeco recorded sales of \$194 million in the quarter, reflecting a 22.1% decrease year over year. Orkambi generated sales of \$226 million in the reported quarter, down 23.9% year over year. Sales of Kalydeco, Symdeko/ Symkevi and Orkambi were hurt by patient switching to Trikafta.

Costs Rise

Adjusted operating income rose 112% to \$854 million in the quarter driven by higher revenues.

Adjusted research and development (R&D) expenses rose 20.7% to \$350 million in the quarter due to expansion of CF and non-CF pipeline.

Adjusted selling, general and administrative (SG&A) expenses increased 15.8% to \$147 million in the reported quarter due to investments made to support the expansion of the CF business.

2020 Outlook

Vertex raised its product revenue guidance for the year primarily based on Trikafta's continued strong performance year to date and the potential impact of the Kaftrio launch on fourth-quarter revenues.

The company now expects total revenues from CF products in the range of \$6.0-\$6.2 billion compared with the previous range of \$5.7-\$5.9 billion. The new guidance, at the midpoint, reflects approximately 52% growth over 2019.

Moreover, combined adjusted R&D and SG&A expense guidance for 2020 was maintained in the band of \$1.95-\$2 billion, which is higher than the 2019 level due to Trikafta launch-related costs and the expansion of the R&D pipeline. Adjusted tax rate is expected in the range of 20%-21% (previously 21%-22%).

Initial 2021 Outlook

In 2021, approval of Trikafta/Kaftrio in additional geographies, reimbursement agreements for Kaftrio in EU countries, and approval of all CF medicines for younger patient populations and additional mutations could bring additional revenues for Vertex.

Recent News

Kalydeco Wins Expanded Approval in EU – Nov 5

Vertex announced that the European Commission has granted marketing authorization to Kalydeco (ivacaftor) for expanded use in infants as young as four months with the R117H mutation in the CFTR gene or at least one of the specified nine mutations in the CFTR gene. In Europe, Kalydeco was until now approved to treat CF in children aged six months and older with one of the specified nine mutations in the CFTR gene.

To End Phase II Study on VX-814 – Oct 14

Vertex announced that it has stopped dosing and will discontinue the phase II study on its investigational oral small molecule corrector, VX-814, for the treatment of alpha-1 antitrypsin deficiency (AATD), an inherited condition that raises risk for lung and liver disease.

The company took the decision to stop dosing in the phase II study based on the safety and pharmacokinetic (PK) profile of VX-814 observed in the study to date. The study was being conducted to evaluate the ability of VX-814 to increase functional levels of alpha-1 antitrypsin, a protein mainly produced by the liver, over 28 days of dosing. However, elevated liver enzymes were observed in several patients, which were more than normal limits. Meanwhile, exposure levels were low as observed in the analysis of PK data from the study, which the company believes would make it impractical to safely reach targeted exposure levels and thus meaningful increases in AAT levels.

FDA Approves Kalydeco to Treat CF in Infants – Sep 25

Vertex announced that the FDA has granted approval to Kalydeco to treat infants, four months to less than six months old, with CF who have at least one mutation in their CFTR gene that is responsive to Kalydeco. Kalydeco is already approved to treat CF in patients ages six months and older in the United States and EU.

Valuation

Vertex's shares are down 1.8% in the year-to-date period but up 9.7% over the trailing 12-month period. Stocks in the Zacks sub-industry and sector are down 6.4% and 4.4%, respectively in the year-to-date period. Over the past year, the Zacks sub-industry and sector are up 3.7% and 3.0%, respectively

The S&P 500 Index is up 4.9% in the year-to-date period and 10.0% in the past year.

The stock is currently trading at 9.48X trailing 12-month sales per share, which compares to 2.85X for the Zacks sub-industry, 2.97X for the Zacks sector and 4.91X for the S&P 500 Index

Over the past five years, the stock has traded as high as 42.49X and as low as 9.13X, with a 5-year median of 15.54. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$226.0 price target reflects 10.0X trailing 12-month sales per share.

The table below shows summary valuation data for VRTX

Valuation Multiples - VRTX					
		Stock	Sub-Industry	Sector	S&P 500
P/S TTM	Current	9.48	2.85	2.97	4.91
	5-Year High	42.49	4.56	3.69	5.14
	5-Year Low	9.13	2.26	2.31	2.79
	5-Year Median	15.54	3.23	3.19	3.82
P/B TTM	Current	6.89	3.17	3.67	5.58
	5-Year High	30.24	5.59	5.09	6.17
	5-Year Low	6.63	2.1	2.97	3.74
	5-Year Median	16.36	3.83	4.3	4.89

As of 11/04/2020 Source: Zacks Investment Research

Industry Analysis Zacks Industry Rank: Bottom 24% (190 out of 250)



Top Peers

Company (Ticker)	Rec	Rank
AbbVie Inc. (ABBV)	Neutral	3
Senesco Technologies Inc. (ELOX)	Neutral	3
MerckCo., Inc. (MRK)	Neutral	3
Novartis AG (NVS)	Neutral	3
Pfizer Inc. (PFE)	Neutral	3
ProQR Therapeutics N.V. (PRQR)	Neutral	2
Proteostasis Therapeutics, Inc. (PTI)	Neutral	2
Translate Bio, Inc. (TBIO)	Neutral	3

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

Industry Comparison Industry: Medical - Biomedical And Genetics				Industry Peers		
	VRTX	X Industry	S&P 500	ABBV	PRQR	PTI
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	3	2	2
VGM Score	A	-	-	B	F	F
Market Cap	55.93 B	284.04 M	23.25 B	166.78 B	213.11 M	57.39 M
# of Analysts	12	3	13	8	3	3
Dividend Yield	0.00%	0.00%	1.6%	4.99%	0.00%	0.00%
Value Score	B	-	-	A	F	F
Cash/Price	0.11	0.26	0.07	0.04	0.52	0.96
EV/EBITDA	32.25	-3.66	13.59	20.31	-2.01	-0.15
PEG F1	0.72	1.63	2.66	1.56	NA	NA
P/B	6.88	3.96	3.41	11.32	2.43	1.28
P/CF	45.13	15.53	13.02	9.15	NA	NA
P/E F1	20.70	24.50	20.92	9.03	NA	NA
P/S TTM	9.34	14.98	2.57	4.10	NA	NA
Earnings Yield	4.83%	-14.00%	4.62%	11.08%	-24.47%	-64.55%
Debt/Equity	0.07	0.00	0.70	5.57	0.06	0.00
Cash Flow (\$/share)	4.77	-1.12	6.92	10.33	-1.23	-1.15
Growth Score	B	-	-	C	D	F
Historical EPS Growth (3-5 Years)	172.84%	18.53%	10.07%	21.23%	NA	NA
Projected EPS Growth (F1/F0)	94.99%	14.67%	-0.08%	17.06%	33.12%	39.08%
Current Cash Flow Growth	52.02%	11.17%	5.34%	8.78%	43.79%	-3.01%
Historical Cash Flow Growth (3-5 Years)	31.70%	6.94%	8.38%	19.92%	NA	NA
Current Ratio	3.72	5.90	1.39	0.86	10.09	6.69
Debt/Capital	6.30%	0.00%	41.80%	84.78%	5.80%	0.00%
Net Margin	44.91%	-209.88%	10.44%	18.16%	NA	NA
Return on Equity	30.86%	-58.06%	14.94%	-5,561.40%	-64.57%	-75.39%
Sales/Assets	0.62	0.19	0.50	0.37	NA	NA
Projected Sales Growth (F1/F0)	47.48%	1.00%	-0.11%	37.33%	284.93%	0.00%
Momentum Score	A	-	-	C	B	F
Daily Price Change	1.87%	1.73%	2.01%	7.44%	-1.16%	4.76%
1-Week Price Change	-1.52%	-6.23%	-5.63%	0.90%	-11.72%	-11.98%
4-Week Price Change	-19.08%	-4.03%	1.30%	8.53%	-12.37%	-5.98%
12-Week Price Change	-20.59%	-6.24%	1.19%	-1.06%	-20.11%	-18.52%
52-Week Price Change	9.76%	14.87%	1.05%	15.13%	-45.16%	25.99%
20-Day Average Volume (Shares)	3,076,627	227,396	1,887,552	9,086,992	243,902	373,722
EPS F1 Estimate 1-Week Change	5.95%	0.00%	0.00%	0.57%	13.61%	0.00%
EPS F1 Estimate 4-Week Change	7.44%	0.00%	0.96%	0.36%	13.61%	3.64%
EPS F1 Estimate 12-Week Change	7.73%	0.00%	2.84%	0.22%	24.88%	22.63%
EPS Q1 Estimate Monthly Change	19.67%	0.00%	0.39%	-2.25%	0.00%	9.30%

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	B
Growth Score	B
Momentum Score	A
VGM Score	A

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.

Disclosures

This report contains independent commentary to be used for informational purposes only. The analysts contributing to this report do not hold any shares of this stock. The analysts contributing to this report do not serve on the board of the company that issued this stock. The EPS and revenue forecasts are the Zacks Consensus estimates, unless indicated otherwise on the reports first page. Additionally, the analysts contributing to this report certify that the views expressed herein accurately reflect the analysts personal views as to the subject securities and issuers. ZIR certifies that no part of the analysts compensation was, is, or will be, directly or indirectly, related to the specific recommendation or views expressed by the analyst in the report.

Additional information on the securities mentioned in this report is available upon request. This report is based on data obtained from sources we believe to be reliable, but is not guaranteed as to accuracy and does not purport to be complete. Any opinions expressed herein are subject to change.

ZIR is not an investment advisor and the report should not be construed as advice designed to meet the particular investment needs of any investor. Prior to making any investment decision, you are advised to consult with your broker, investment advisor, or other appropriate tax or financial professional to determine the suitability of any investment. This report and others like it are published regularly and not in response to episodic market activity or events affecting the securities industry.

This report is not to be construed as an offer or the solicitation of an offer to buy or sell the securities herein mentioned. ZIR or its officers, employees or customers may have a position long or short in the securities mentioned and buy or sell the securities from time to time. ZIR is not a broker-dealer. ZIR may enter into arms-length agreements with broker-dealers to provide this research to their clients. Zacks and its staff are not involved in investment banking activities for the stock issuer covered in this report.

ZIR uses the following rating system for the securities it covers. **Outperform-** ZIR expects that the subject company will outperform the broader U.S. equities markets over the next six to twelve months. **Neutral-** ZIR expects that the company will perform in line with the broader U.S. equities markets over the next six to twelve months. **Underperform-** ZIR expects the company will underperform the broader U.S. equities markets over the next six to twelve months.

No part of this report can be reprinted, republished or transmitted electronically without the prior written authorization of ZIR.

Additional Disclosure

This material represents an assessment of the market and economic environment at a specific point in time and is not intended to be a forecast of future events, or a guarantee of future results. Forward-looking statements are subject to certain risks and uncertainties. Any statements that refer to expectations, projections or characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. Actual results, performance, or achievements may differ materially from those expressed or implied.

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.