

Xilinx Inc. (XLNX)

\$88.06 (As of 01/29/20)

Price Target (6-12 Months): **\$92.00**

Long Term: 6-12 Months

Zacks Recommendation:

Neutral

(Since: 12/23/19)

Prior Recommendation: Underperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:B

Value: C

Growth: C

Momentum: A

Summary

Xilinx reported mixed third-quarter fiscal 2020 results, wherein earnings topped estimates but revenues missed the same. The company is hurt by decline in the WWG business. Anticipated baseband ASIC transition and some program-related delays with one of its global OEMs is a spoiler. Slowdown in 5G rollout across multiple regions is a downside. Further, the impact of Huawei ban and other trade-related uncertainties forced the company to provide a downbeat outlook for fourth-quarter fiscal 2020. Higher-than-anticipated softness in WWG business is likely to persist as a dampener in the fiscal fourth quarter. However, focus on checking operating expense is a consistent upside. Growing demand for the company's 60-nanometer UltraScale+ family is a positive.

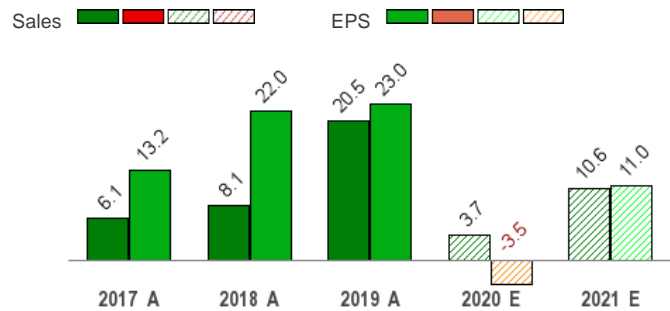
Price, Consensus & Surprise



Data Overview

| | |
|----------------------------|---|
| 52 Week High-Low | \$141.60 - \$86.61 |
| 20 Day Average Volume (sh) | 3,864,655 |
| Market Cap | \$21.9 B |
| YTD Price Change | -9.9% |
| Beta | 1.22 |
| Dividend / Div Yld | \$1.48 / 1.7% |
| Industry | Semiconductors - Programmable Logic |
| Zacks Industry Rank | Top 44% (113 out of 255) |

Sales and EPS Growth Rates (Y/Y %)



| | |
|---------------------------|------------|
| Last EPS Surprise | 6.3% |
| Last Sales Surprise | -0.3% |
| EPS F1 Est- 4 week change | 0.1% |
| Expected Report Date | 04/22/2020 |
| Earnings ESP | 0.6% |
| P/E TTM | 25.0 |
| P/E F1 | 26.2 |
| PEG F1 | 2.2 |
| P/S TTM | 6.8 |

Sales Estimates (millions of \$)

| | Q1 | Q2 | Q3 | Q4 | Annual* |
|------|-------|-------|-------|-------|---------|
| 2021 | 833 E | 861 E | 880 E | 867 E | 3,508 E |
| 2020 | 850 A | 833 A | 724 A | | 3,171 E |
| 2019 | 684 A | 746 A | 800 A | 828 A | 3,059 A |

EPS Estimates

| | Q1 | Q2 | Q3 | Q4 | Annual* |
|------|----------|----------|----------|----------|----------|
| 2021 | \$0.82 E | \$0.87 E | \$0.93 E | \$0.99 E | \$3.73 E |
| 2020 | \$0.97 A | \$0.94 A | \$0.68 A | \$0.81 E | \$3.36 E |
| 2019 | \$0.74 A | \$0.87 A | \$0.92 A | \$0.94 A | \$3.48 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 01/29/2020. The reports text is as of 01/30/2020.

Overview

San Jose, CA-based Xilinx Inc., founded in 1984, designs and manufactures a broad range of programmable devices and associated technologies. This includes high-performance, high-density programmable logic devices (PLDs) such as programmable system on chips and three dimensional ICs; adaptive compute acceleration platform (ACAP); software design tools to program the PLDs; software development environments and embedded platforms; targeted reference designs; printed circuit boards and intellectual property (IP) core licenses covering Ethernet, memory controllers, Interlaken and peripheral component interconnect express interfaces as well as domain-specific IP in the areas of embedded, digital signal processing and connectivity plus market-specific IP cores.

In fiscal 2019, the company reported more than \$3 billion of revenues, up 24% over the fiscal 2018 figure.

The company classifies its products into two categories:

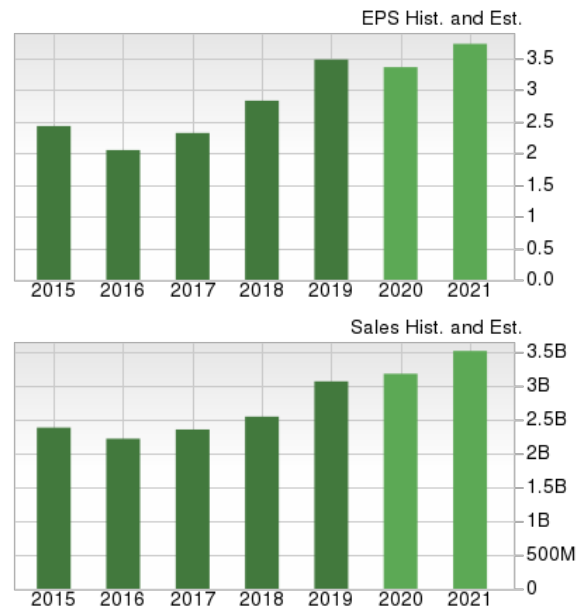
Advanced Products (64% of fiscal 2019 revenues) include Alveo, UltraScale+, Ultrascale and 7-series products.

Core Products (36%) include Virtex-6, Spartan-6, Virtex-5, CoolRunner- II Virtex-4, Virtex-II, Spartan-3, Spartan-2, XC9500 products, configuration solutions, software & support/services.

The company provides solutions for electronic equipment makers in wired and wireless communications, industrial, scientific and medical, aerospace and defense, audio, video and broadcast, consumer, automotive and data processing markets.

The company sells its products and services through independent domestic and foreign distributors and via direct sales to the original equipment manufacturers (OEMs) and its electronic manufacturing service providers (EMS). Sales are generated by these independent distributors, independent sales representative or the company's direct sales organization.

Starting first-quarter fiscal 2020, Xilinx changed its revenue reporting structure. Going forward, Communications is now called Wired and Wireless Group (WWG). Data Center Group is reported separately and include high-performance computing. While Aerospace & Defense, Industrial and Test plus Measurement & Emulation (TME) is called AIT, the Automotive, Broadcast and Consumer group is called ABC.



Reasons To Buy:

- ▲ Xilinx's ongoing transition from a FPGA provider to an all-programmable devices producer has been helping the company gain market share. Its expanding product portfolio, which includes the Zynq RFSoc platform, is assisting it to counter intense competition from the likes of Intel. The company's Zynq portfolio, which is implemented in both the 28-nm and 16-nm node, is delivering sturdy top-line growth. The company has started shipping of the 16-nm RFSoc Silicon In-house family of product, which offers a superior architectural solution to 5G wireless with integrated RF-class analog technology. Moreover, its newly launched 7nm ACAP Versal platform is expected to be a game changer.
- ▲ We are optimistic over the demand of Xilinx's Ultrascale+ FPGAs by data-center operators for providing FPGA-as-a-Service. Amazon was the first to use Xilinx chips and started offering FPGA-as-a-Service in May 2017. The company's leadership position in China market with regard to FPGA-as-a-Service expanded with Alibaba moving from beta to general access. Alibaba Cloud recently announced that Xilinx is powering the data center and is being used by their cloud services enterprise customers. The company's Zynq MPSoc is powering Baidu's production-ready Apollo Computing Unit for automated valet parking.
- ▲ The ever-evolving technology sector has been witnessing a number of new trends over the past couple of years. Of these, the notable ones include AI, 5G connectivity, autonomous vehicles and IoT. This has created a whole new opportunity for hardware and software companies, in turn, increasing demand for programmable chips. We consider that the demand for FPGAs will surge over the long run, backed by its unique feature of the ability to be reprogrammed to the desired application or functionality requirements after manufacturing. Notably, Xilinx is a market leader in the FPGA market, with 58% share and has over one-year technology lead over its closest rival – Intel. Therefore, we believe that Xilinx is well placed to grab the opportunity arising from an increase in adoption of AI technologies, 5G connectivity, autonomous vehicles and IoT.
- ▲ Xilinx has significant exposure to Telecom & Wireless vertical markets. These markets are strongly co-related with global GDP growth and spending behavior. Most of the emerging economies are seeing unprecedented demand for mobile devices like smartphones and tablets and are also getting increasingly connected via the Internet. This has compelled these countries to heavily invest in Telecom & Wireless infrastructure. The growing usage of Zynq RFSocs and ACAP products for 5G deployments by both basebands and radios is a positive.
- ▲ The FPGA industry has a high barrier to entry. Bottlenecks such as a unique skill set that combines semiconductor and software expertise; high investment, especially at leading technology nodes; lack of third-party development tools; and intellectual property make this space less attractive. Hence, the FPGA market is operating as a duopoly with two key players, Xilinx and Altera, dominating approximately 80% of the market.
- ▲ We are encouraged by Xilinx's endeavor to return shareholder value through continued share buybacks and dividends. Continuing with its policy of returning cash to shareholders, in fiscal 2019, Xilinx returned \$526 million to its shareholders through a combination of buybacks and dividends. The company repurchased 2.4 million shares worth \$162 million and paid a total of \$364 million in dividends. These investor-friendly initiatives not only boost the company's earnings but also instill investor confidence and loyalty in the stock.
- ▲ Xilinx's strategy to drive operational efficiency is a positive. Notably, the company is reducing its global workflow by 7% and taking several steps to control discretionary spending. These actions are expected to result in savings of \$17 million to \$20 million from operating expenses in the fiscal fourth quarter.

Xilinx is well-positioned to tap the opportunities arising from an increase in the adoption of AI technologies, 5G connectivity, autonomous vehicles and IoTs, which will drive growth in the long run.

Reasons To Sell:

- ▼ Xilinx could face challenges from its biggest competitor, Intel. After acquiring Altera in 2015, Intel has been developing high-end high-performance next-generation 14 nm FPGA chips by using its 14 nm tri-gate transistor technology. To remain competitive, Xilinx is planning a transition to the 16 nm node using Taiwan Semiconductor Company's FinFET technology. However, as Intel's manufacturing process is technologically more advanced, we do not expect Xilinx to outperform Intel in the lower dimension nodes. Apart from this, both the companies are likely to compete in 20 nm products that are still under production.
- ▼ By acquiring Altera, Intel now has a strategic advantage over Xilinx regarding its HardCopy offering (a new type of high performance ASIC for which Xilinx does not have a competing product). HardCopy offers the performance of an ASIC and the flexibility of a PLD. HardCopy devices, therefore, have the potential to drive future revenues due to their low costs and ability to address opportunities beyond the PLD market. As far as development costs are concerned, ASICs are more economical and offer improved chip performance than PLDs when used in high-volume production. Therefore, they are ideal for large-volume, low-cost appliances such as consumer electronics. Customers often opt for PLDs initially for their time-to-market benefits and then shift to ASICs to produce greater volumes at lower costs. With no exposure into ASICs, it will be difficult for Xilinx to outperform Intel.
- ▼ Xilinx keeps on innovating for producing advanced FPGAs of lower geometries to improve performance, density and system-level functionality, integration, and lower cost and power consumption at each manufacturing process node. With each transition to a new process node, there are considerable tape-out costs, the need to navigate the learning curve and limited volume production, which are all significant headwinds for margins and profitability. Xilinx is on the verge of a 20-nm and 16-nm transition, so there will be related pressure on gross margin.
- ▼ Xilinx is hurt by the suspension of shipments to Huawei due to the export ban imposed by the U.S. government. On the earnings call, management mentioned that the company forecasts WWG business to be down significantly in the fiscal fourth quarter. Slowdown in both 5G and wired infrastructure deployments coupled with the ongoing global trade headwinds is likely to dent WWG business. Notably, the impact of Huawei ban and other trade-related uncertainties forced the company to provide a downbeat outlook for fourth-quarter fiscal 2020.

5G deployment and a few other product mixes are a threat to gross margin. Stiff competition from peers is another material headwind.

Last Earnings Report

Xilinx Q3 Earnings Top, Revenues Miss, Q4 View Upsets

Xilinx delivered third-quarter fiscal 2020 earnings of 68 cents per share, higher than the Zacks Consensus Estimate of 64 cents. However, the bottom line was 26% lower than the prior-year quarterly figure of 92 cents.

Revenues declined 10% year over year to \$723 million and missed the Zacks Consensus Estimate of \$726 million as well. Weakness in the WWG business is a major overhang on the company.

Management now anticipates a more gradual recovery in revenues than what it had earlier envisioned in the beginning of the fiscal third quarter. Higher-than-anticipated softness in WWG business is likely to persist as a dampener in the fiscal fourth quarter.

Quarter in Detail

Product wise, Advanced product revenues declined 4% year over year, contributing 70% to total revenues. However, the same from core products (30% of total) decreased 21% from the year-ago quarter.

Despite the impact of a deteriorating wired and wireless business, Zynq-based revenues grew 26% on a year-over-year basis. The Zynq SoC platform including Zynq at 28 nm and both MPSoC and RFSoc at 16 nm, accounted for 23% of the total revenues.

On the basis of end markets, WWG revenues (31% of total revenues) dropped 18% year over year. Anticipated baseband ASIC transition and some program-related delays with one of Xilinx's global OEMs was a spoiler. Slowdown in 5G rollout across multiple regions is a downside. Further, broad-based decline in demand across multiple customers adversely impacted the wired business.

Automotive, Broadcast and Consumer group (ABC) (19% of total revenues) increased 10% year over year. The automotive business suffered macroeconomic and trade related headwinds.

A&D, Industrial and TME (AIT) revenues (40% of total revenues) fell 10% on a year-over-year basis. The company witnessed increased revenues from emulation and prototyping customers in TME market.

Data Center revenues (9% of total) improved 8% from the year-ago period, primarily owing to sales of both compute and networking products to hyperscale customers. Better-than-expected networking revenues from Solarflare were also a tailwind. Dwindling demand from high-performance computing and some crypto customers was a challenge.

Geographically, the company registered a year-over-year decrease of 6% in the Asia Pacific and 4% in Japan. While Europe and North America fell 19% and 10%, respectively.

Margins

Gross margin came in at 68%, down 100 bps year over year.

Non-GAAP OpEx was \$318 million, significantly lower than the guidance of \$330 million due to reduction in hiring and discretionary spending.

The company posted non-GAAP operating income of \$174 million, down 34% year over year. Operating margin contracted 890 bps to 24%.

Balance Sheet and Cash Flow

Xilinx exited the fiscal third quarter with cash, cash equivalents and short-term investments of approximately \$2.43 billion compared with \$2.52 billion sequentially.

The company has total long-term debt of \$1.246 billion.

Xilinx generated \$324 million of cash from operations compared with \$224 million in the earlier reported quarter.

During the quarter, the company repurchased 2.8 million shares at an average price of \$93.70 per share and paid out dividends worth \$93 million.

Outlook

For fourth-quarter fiscal 2020, Xilinx projects revenues in the range of \$750-\$780 million.

On the earnings call, management mentioned that the company forecasts WWG business to be down significantly in the fiscal fourth quarter. Slowdown in both 5G and wired infrastructure deployments coupled with the ongoing global trade headwinds is likely to dent WWG business.

However, meaningful improvement in the core markets and moderate growth in DCG is likely to remain a tailwind.

The company expects both A&D and ISM to improve in the fiscal fourth quarter. Automotive is also likely to rebound owing to increase in ADAS demand relative to the fiscal third quarter.

Gross margin is forecast to be 68.5-70.5%. Operating expenses are projected in the range of \$316-\$320 million for the fiscal fourth quarter.

Quarter Ending **12/2019**

| Report Date | Jan 28, 2020 |
|------------------|--------------|
| Sales Surprise | -0.30% |
| EPS Surprise | 6.25% |
| Quarterly EPS | 0.68 |
| Annual EPS (TTM) | 3.53 |

Recent News

On Dec 19, 2019, Xilinx announced that its Automotive Zynq UltraScale+ MPSoC is enabling Baidu's BIDU Apollo Computing Unit (ACU)-Advanced platform for Automated Valet Parking (AVP).

On Nov 12, 2019, Xilinx expanded its automotive-qualified 16 nanometer (nm) family with two new devices – the Xilinx Automotive (XA) Zynq UltraScale+ MPSoC 7EV and 11EG. The company also announced that its Vitis unified software platform is available for download.

On Oct 31, 2019, Xilinx and SK Telecom announced that SK Telecom has adopted Xilinx Alveo Datacenter Accelerator cards to power a real-time AI-based physical intrusion and theft detection service.

On Oct 1, 2019, Xilinx introduced a unified software platform, Vitis, that enables software engineers and AI scientists to take advantage of the power of hardware adaptability.

On Aug 6, 2019, Xilinx expanded its Alveo data center accelerator card portfolio with the launch of the Alveo U50.

Valuation

Shares of Xilinx have declined 22.9% in the past six months and 21.3% over the trailing 12-month period. Stocks in the Zacks sub-industry lost 22.9%, while the Zacks Computer & Technology sector rallied 15% in the past six months, respectively. Over the past year, while the Zacks sub-industry has lost 21.3%, the sector gained 28.7%.

The S&P 500 Index has risen 10.3% in the past six months and 20.1% in the past year.

The stock is currently trading at 23.78X forward 12-month earnings, which compares to 26.62X for the Zacks sub-industry, 22.71X for the Zacks sector and 18.81X for the S&P 500 index.

Over the past five years, the stock has traded as high as 37.41X and as low as 16.8X with a 5-year median of 23.99X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$92 price target reflects 24.97X forward 12-month earnings.

The table below shows summary valuation data for XLNX

| Valuation Multiples - XLNX | | | | | |
|----------------------------|---------------|-------|--------------|--------|---------|
| | | Stock | Sub-Industry | Sector | S&P 500 |
| P/E F12M | Current | 23.78 | 26.62 | 22.71 | 18.81 |
| | 5-Year High | 37.41 | 32.88 | 22.71 | 19.34 |
| | 5-Year Low | 16.8 | 16.69 | 16.87 | 15.18 |
| | 5-Year Median | 23.99 | 24.11 | 19.24 | 17.45 |
| P/S F12M | Current | 6.4 | 7.17 | 3.69 | 3.49 |
| | 5-Year High | 10.78 | 9.46 | 3.69 | 3.49 |
| | 5-Year Low | 4.17 | 4.17 | 2.3 | 2.54 |
| | 5-Year Median | 6.22 | 6.21 | 3.01 | 3 |
| P/B TTM | Current | 8.21 | 9.2 | 5.56 | 4.48 |
| | 5-Year High | 12.78 | 12.78 | 5.63 | 4.55 |
| | 5-Year Low | 3.82 | 3.82 | 3.13 | 2.85 |
| | 5-Year Median | 6.46 | 6.46 | 4.22 | 3.62 |

As of 01/29/2020

Industry Analysis Zacks Industry Rank: Top 44% (113 out of 255)



Top Peers

| | |
|--|------------|
| NVIDIA Corporation (NVDA) | Outperform |
| Ambarella, Inc. (AMBA) | Neutral |
| Broadcom Inc. (AVGO) | Neutral |
| Intel Corporation (INTC) | Neutral |
| Lattice Semiconductor Corporation (LSCC) | Neutral |
| Microchip Technology Incorporated (MCHP) | Neutral |
| Marvell Technology Group Ltd. (MRVL) | Neutral |
| Texas Instruments Incorporated (TXN) | Neutral |

| Industry Comparison Industry: Semiconductors - Programmable Logic | | | | Industry Peers | | |
|---|--------------|------------|-----------|----------------|--------------|-----------------|
| | XLNX Neutral | X Industry | S&P 500 | INTC Neutral | LSCC Neutral | NVDA Outperform |
| VGM Score | B | - | - | A | C | C |
| Market Cap | 21.91 B | 21.91 B | 23.91 B | 283.69 B | 2.80 B | 150.27 B |
| # of Analysts | 7 | 8 | 13 | 14 | 4 | 11 |
| Dividend Yield | 1.68% | 1.68% | 1.77% | 1.90% | 0.00% | 0.26% |
| Value Score | C | - | - | B | F | F |
| Cash/Price | 0.10 | 0.10 | 0.04 | 0.04 | 0.03 | 0.06 |
| EV/EBITDA | 19.43 | 19.43 | 14.07 | 9.13 | 75.01 | 33.91 |
| PEG Ratio | 2.14 | 2.18 | 2.00 | 1.77 | 2.37 | 4.73 |
| Price/Book (P/B) | 8.30 | 8.30 | 3.27 | 3.66 | 9.03 | 13.40 |
| Price/Cash Flow (P/CF) | 22.41 | 22.41 | 13.48 | 8.70 | 38.05 | 36.67 |
| P/E (F1) | 25.74 | 26.21 | 18.76 | 13.30 | 29.58 | 44.19 |
| Price/Sales (P/S) | 6.77 | 6.77 | 2.61 | 3.94 | 6.99 | 15.00 |
| Earnings Yield | 3.82% | 3.82% | 5.32% | 7.52% | 3.39% | 2.26% |
| Debt/Equity | 0.47 | 0.47 | 0.72 | 0.33 | 0.52 | 0.22 |
| Cash Flow (\$/share) | 3.93 | 3.93 | 6.88 | 7.62 | 0.55 | 6.70 |
| Growth Score | C | - | - | A | A | B |
| Hist. EPS Growth (3-5 yrs) | 11.76% | 11.76% | 10.68% | 20.24% | 36.03% | 47.42% |
| Proj. EPS Growth (F1/F0) | -3.45% | -3.96% | 7.73% | 2.38% | 21.46% | -16.32% |
| Curr. Cash Flow Growth | 20.58% | 20.58% | 12.29% | 6.53% | 17.00% | 29.72% |
| Hist. Cash Flow Growth (3-5 yrs) | 7.26% | 7.26% | 8.78% | 9.99% | 9.92% | 41.59% |
| Current Ratio | 6.06 | 6.06 | 1.23 | 1.40 | 2.94 | 8.42 |
| Debt/Capital | 32.05% | 32.05% | 43.16% | 24.62% | 34.31% | 17.98% |
| Net Margin | 27.05% | 27.05% | 11.59% | 29.25% | 5.60% | 24.08% |
| Return on Equity | 33.38% | 33.38% | 17.38% | 29.01% | 18.64% | 22.02% |
| Sales/Assets | 0.64 | 0.64 | 0.54 | 0.54 | 0.65 | 0.69 |
| Proj. Sales Growth (F1/F0) | 3.67% | 3.67% | 4.05% | 2.19% | 4.76% | -8.07% |
| Momentum Score | A | - | - | B | B | B |
| Daily Price Chg | -10.70% | -10.70% | -0.21% | -1.46% | -1.27% | -0.98% |
| 1 Week Price Chg | -2.03% | -2.03% | -1.09% | 14.88% | -7.03% | 0.48% |
| 4 Week Price Chg | -9.93% | -9.93% | -0.01% | 10.83% | 9.35% | 4.35% |
| 12 Week Price Chg | -6.09% | -6.09% | 4.14% | 15.16% | 8.05% | 18.26% |
| 52 Week Price Chg | -21.99% | -21.99% | 17.24% | 39.53% | 168.33% | 78.72% |
| 20 Day Average Volume | 3,864,655 | 3,864,655 | 1,824,613 | 24,507,618 | 2,182,695 | 6,839,302 |
| (F1) EPS Est 1 week change | 0.41% | 0.41% | 0.00% | 5.74% | 0.00% | 0.00% |
| (F1) EPS Est 4 week change | 0.07% | 0.07% | 0.00% | 5.60% | 2.16% | 0.00% |
| (F1) EPS Est 12 week change | 0.04% | 0.04% | -0.11% | 5.57% | 1.72% | 6.03% |
| (Q1) EPS Est Mthly Chg | -1.66% | -1.66% | 0.00% | 25.02% | 0.00% | 0.00% |

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 have an excellent 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 | C |
| Growth Score | C |
| Momentum Score | A |
| VGM Score | B |

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.