

Xilinx Inc. (XLNX)

\$103.80 (As of 09/28/20)

Price Target (6-12 Months): **\$109.00**

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:D

Value: D

Growth: B

Momentum: D

Summary

Xilinx continues to benefit from significant contributions from storage and networking customers. Moreover, growing demand for the company's 16-nanometer UltraScale+ family and Zynq platform are likely to remain major growth drivers. Furthermore, data-center revenues are likely to continue growing due to the expansion of the business at multiple hyperscalers. Additionally, the acquisition of Solarflare would bring in incremental revenues in the subsequent quarters. The stock has outperformed the industry year to date. However, slowdown in 5G rollout across multiple regions remains a downside. The company's WWG revenue is likely to decline sequentially due to digestion of CIV-accelerated orders. Additionally, the impact of the Huawei ban along with the adverse impact of the coronavirus pandemic on the business hurt the top line

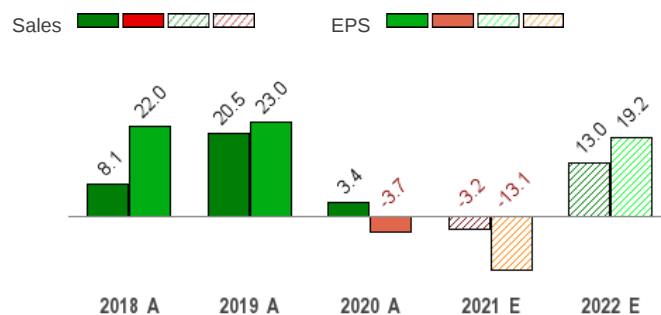
Price, Consensus & Surprise



Data Overview

52-Week High-Low	\$112.17 - \$67.68
20-Day Average Volume (Shares)	1,716,420
Market Cap	\$25.4 B
Year-To-Date Price Change	6.2%
Beta	0.96
Dividend / Dividend Yield	\$1.52 / 1.5%
Industry	Semiconductors - Programmable Logic
Zacks Industry Rank	Top 49% (122 out of 250)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	3.2%
Last Sales Surprise	-0.1%
EPS F1 Estimate 4-Week Change	0.0%
Expected Report Date	10/21/2020
Earnings ESP	0.0%
P/E TTM	34.0
P/E F1	35.7
PEG F1	3.0
P/S TTM	8.3

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2022	836 E	850 E	877 E	886 E	3,461 E
2021	727 A	755 E	778 E	808 E	3,062 E
2020	850 A	833 A	724 A	756 A	3,163 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2022	\$0.82 E	\$0.86 E	\$0.91 E	\$0.93 E	\$3.47 E
2021	\$0.65 A	\$0.77 E	\$0.72 E	\$0.77 E	\$2.91 E
2020	\$0.97 A	\$0.94 A	\$0.68 A	\$0.78 A	\$3.35 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 09/28/2020. The reports text is as of 09/29/2020.

Overview

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 2020, Xilinx reported \$3.2 billion of revenues. This San Jose, CA-based company classifies its products into two categories:

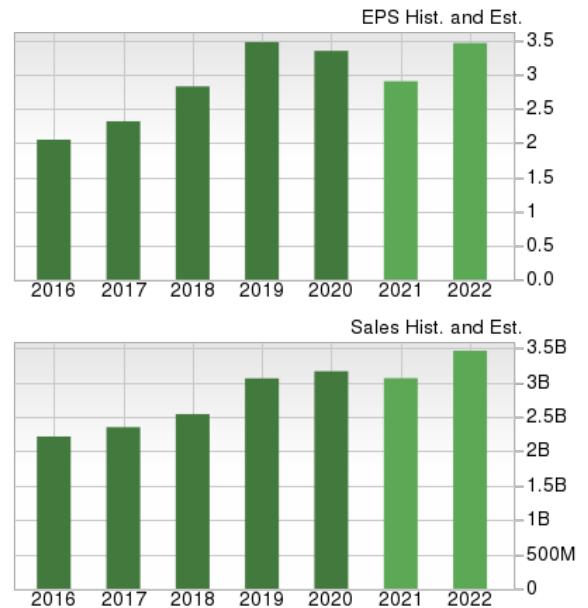
Advanced Products (70% of fiscal 2020 revenues) include Alveo, UltraScale+, Ultrascale and 7-series products.

Core Products (30%) 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. Communications is now called Wired and Wireless Group (WWG). Data Center Group is reported separately and includes 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.



Source: Zacks Investment Research

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.
- ▲ Xilinx has a strong balance sheet with ample liquidity position and less debt obligations. As of Jun 27, 2020, the company had cash, cash equivalents and short-term investments of approximately \$3 billion. Moreover, long-term debt (including current maturities) as of Jun 27, 2020 was approximately \$2 billion. Also, its total debt-to-equity ratio of 0.46 is in-line with the industry average.
- ▲ Xilinx generates strong cash flows which provide it with ample liquidity to service its debts and fund future investments. The company generated \$1.19 billion in operating cash flow in fiscal 2020 compared with \$1.09 billion in fiscal 2019. At the same time, we are encouraged by Xilinx's endeavor to return shareholder value through continued share buybacks and dividends. During fiscal 2020, the company bought back shares worth \$1.21 billion and paid \$372 million in dividends. In first-quarter fiscal 2021, Xilinx generated \$245 million of cash from operations and \$230 million of free cash flows. During the quarter, the company repurchased \$54 million worth of common stocks and paid out dividends worth \$92 million.

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.
- ▼ Notably, Xilinx refrained from providing any guidance for fiscal 2021 as it is still assessing the expected impacts of COVID-19-related disruptions in some portions of its core markets, including Automotive, Broadcast, Consumer, Industrial and semiconductor test.

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's Q1 Earnings Beat Estimates, Decline Y/Y

Xilinx delivered first-quarter fiscal 2021 earnings of 65 cents per share, beating the Zacks Consensus Estimate of 63 cents. However, the bottom line comes in 33% lower than the prior-year quarter's 97 cents.

Revenues of \$727 million came in line with the Zacks Consensus Estimate but declined 17% year over year. The impact of the Huawei ban and other trade-related uncertainties, along with the pandemic's adverse impact on the business, hurt the top line.

The company witnessed improved chip demand across Data Center Group (DCG), Wired and Wireless Group (WWG), and the Industrials markets. However, demand from Automotive and Broadcast businesses remained weak through the quarter.

Quarter in Detail

Product wise, advanced product revenues declined 16% year over year, contributing 68% to total revenues. Revenues from core products (32% of total revenues) also decreased 12% from the year-ago quarter.

During the quarter, the company recorded a 7% decline in Zynq product-based revenues primarily due to lower Zynq sales in the automotive businesses.

On the basis of end markets, A&D, Industrial and TME (AIT) revenues (45% of total revenues) dipped 2% on a year-over-year basis. The decline was mainly due to rescheduling of some customer program in the second quarter.

Automotive, Broadcast and Consumer group (ABC) (12% of total revenues) slipped 29% year over year. The automotive business suffered steep decline in auto sales and witnessed factory shutdowns due to the pandemic.

WWG revenues (33% of total revenues) dropped 33% year over year. The segment's sales were adversely impacted by trade restrictions on Huawei.

DCG revenues (12% of total) surged 104% from the year-ago period, primarily owing to contributions from compute acceleration, driven by a mix of cloud and high-performance compute customers. Notable contribution from a hyperscaler deployment of its FPGA-based SmartNIC was a tailwind.

Geographically, the company registered a year-over-year decrease of 6% in North America, 9% in the Asia Pacific, 18% in Japan and 39% in Europe.

Margins

Non-GAAP gross margin came in at 69%, up 240 basis points (bps) year over year. It also came within the company's guided range of 68-70%.

Non-GAAP OpEx was \$314 million, slightly above the company's guidance of \$307-\$311 million due to increased variable compensation.

The company posted non-GAAP operating income of \$186.6 million, down 28.2% year over year. Operating margin contracted 460 bps to 26% as benefit of higher gross margin was offset by elevated operating expenses.

Balance Sheet and Cash Flow

Xilinx exited the fiscal first quarter with cash, cash equivalents and short-term investments of approximately \$3 billion compared with the prior quarter's \$2.27 billion sequentially.

The company's total long-term debt increased to \$1.49 billion as of Jun 27, from \$747.1 million as of Mar 28. This upswing reflects senior notes issuance of \$750 million in May.

Xilinx generated \$245 million of cash from operations compared with the previous quarter's \$345 million. The company generated free cash flow of \$230 million compared with the \$313 million witnessed in the last quarter.

During the fiscal first quarter, the company repurchased 0.7 million shares at an average price of \$78 per share and paid out dividends worth \$92 million.

Outlook

For the second quarter of fiscal 2021, the company expects revenues between \$730 million and \$780 million.

In the earnings call, management predicted its WWG revenues to decline sequentially in the fiscal second quarter due to digestion of CIV accelerated orders. Additionally, it projects sales at DCG to remain flat or marginally decline on a sequential basis.

Nonetheless, the company anticipates solid sequential recovery in its AIT segment, led by the TME and A&D businesses. Xilinx also expects recovery across the automotive and broadcast markets.

Gross margin is forecast to be 69.5-72.5%. Operating expenses are projected at \$322-\$336 million for the fiscal second quarter.

Quarter Ending	06/2020
Report Date	Jul 30, 2020
Sales Surprise	-0.08%
EPS Surprise	3.17%
Quarterly EPS	0.65
Annual EPS (TTM)	3.05

Recent News

On Sep 23, Xilinx and Continental today announced that Xilinx will power Continental's new Advanced Radar Sensor (ARS) 540 with the Zynq UltraScale+ MPSoC platform, creating the automotive industry's first production-ready 4D imaging radar.

On Aug 20, Xilinx announced that Subaru has selected the former's technology to power the latter's vision-based advanced driver-assistance system, EyeSight.

On Jul 28, Xilinx announced that it has joined the Open RAN Policy Coalition to support the development and deployment of Open RAN 5G technologies.

On June 29, Xilinx updated its guidance for the first quarter of fiscal 2021. Improved revenue guidance amid the prevalent market uncertainties highlights the company's strong operating abilities.

On June 17, Xilinx launched two real-time computing video appliances for scalable, ultra-high-density video transcoding applications. These appliances, based on Xilinx RT Server, will enable cost-efficient optimization of video quality, and bitrate for eSports and e-gaming applications, video conferencing platforms, live broadcast and telemedicine applications.

On May 19, Xilinx unveils industry's first 20-nm space-grade FPGA – Radiation Tolerant (RT) Kintex UltraScale XQRKU060.

On May 19, Xilinx announced pricing of 2.375% senior notes due 2030 offering worth \$750 million.

On May 5, Xilinx announced establishing Xilinx Adaptive Compute Clusters (XACC) at four of the world's most prestigious universities. The XACCs would provide critical infrastructure and funding to support novel research in adaptive compute acceleration for high performance computing.

Valuation

Shares of Xilinx are up 6.1% in the year so far and 8.2% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector have increased 2.6% and 19.9%, in the year-to-date (YTD) period, respectively. Over the past year, while the Zacks sub-industry decreased 4.6%, the sector gained 33.4%.

The S&P 500 Index has increased 2.4% YTD and 11% in the past year.

The stock is currently trading at 32.59X forward 12-month earnings, which compares to 31.51X for the Zacks sub-industry, 25.57X for the Zacks sector and 21.61X for the S&P 500 index.

Over the past five years, the stock has traded as high as 37.41X and as low as 19.04X with a 5-year median of 24.66X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$109 price target reflects 34.22X 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	32.59	31.51	25.57	21.61
	5-Year High	37.41	34.52	27.98	23.46
	5-Year Low	19.04	19.82	16.72	15.26
	5-Year Median	24.66	24.85	19.93	17.63
P/S F12M	Current	7.78	7.52	4.17	4.02
	5-Year High	10.78	9.46	4.49	4.30
	5-Year Low	4.45	4.67	2.70	3.11
	5-Year Median	6.49	6.54	3.43	3.66
P/B TTM	Current	10.93	10.57	7.49	5.68
	5-Year High	12.78	12.78	8.33	6.19
	5-Year Low	4.03	4.03	4.10	3.75
	5-Year Median	7.38	7.38	5.57	4.86

As of 09/28/2020

Source: Zacks Investment Research

Industry Analysis Zacks Industry Rank: Top 49% (122 out of 250)



Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
Ambarella, Inc. (AMBA)	Neutral	3
Broadcom Inc. (AVGO)	Neutral	3
Intel Corporation (INTC)	Neutral	3
Lattice Semiconductor Corporation (LSCC)	Neutral	3
Microchip Technology Incorporated (MCHP)	Neutral	3
Marvell Technology Group Ltd. (MRVL)	Neutral	3
NVIDIA Corporation (NVDA)	Neutral	4
Texas Instruments Incorporated (TXN)	Neutral	4

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

Industry Comparison Industry: Semiconductors - Programmable Logic				Industry Peers		
	XLNX	X Industry	S&P 500	INTC	LSCC	NVDA
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	3	3	4
VGM Score	D	-	-	A	D	B
Market Cap	25.36 B	25.36 B	23.11 B	218.73 B	3.89 B	321.70 B
# of Analysts	9	10	14	13	5	13
Dividend Yield	1.46%	1.46%	1.66%	2.57%	0.00%	0.12%
Value Score	D	-	-	A	F	F
Cash/Price	0.12	0.12	0.08	0.12	0.04	0.03
EV/EBITDA	24.04	24.04	13.15	6.56	42.52	93.35
PEG F1	2.97	3.97	2.88	1.41	4.58	2.85
P/B	10.93	10.93	3.29	2.67	10.68	23.12
P/CF	25.02	25.02	12.83	6.77	39.46	99.25
P/E F1	35.64	35.72	21.32	10.58	45.78	57.22
P/S TTM	8.34	8.34	2.49	2.77	9.69	24.62
Earnings Yield	2.80%	2.80%	4.44%	9.45%	2.19%	1.75%
Debt/Equity	0.64	0.64	0.70	0.44	0.46	0.50
Cash Flow (\$/share)	4.15	4.15	6.92	7.60	0.73	5.25
Growth Score	B	-	-	A	B	A
Historical EPS Growth (3-5 Years)	13.97%	13.97%	10.43%	22.01%	129.45%	37.24%
Projected EPS Growth (F1/F0)	-13.27%	-13.05%	-4.22%	-0.21%	6.44%	57.37%
Current Cash Flow Growth	1.35%	1.35%	5.47%	6.53%	36.56%	-20.70%
Historical Cash Flow Growth (3-5 Years)	5.96%	5.96%	8.52%	9.99%	11.10%	28.68%
Current Ratio	3.50	3.50	1.35	1.97	3.66	6.09
Debt/Capital	39.14%	39.14%	42.91%	30.56%	31.38%	33.34%
Net Margin	21.22%	21.22%	10.28%	29.97%	11.53%	25.93%
Return on Equity	30.66%	30.66%	14.73%	31.55%	17.81%	30.41%
Sales/Assets	0.60	0.60	0.50	0.55	0.63	0.64
Projected Sales Growth (F1/F0)	-3.17%	-3.17%	-1.38%	4.34%	-0.92%	44.80%
Momentum Score	D	-	-	B	D	A
Daily Price Change	3.44%	3.44%	1.85%	2.98%	2.44%	1.25%
1-Week Price Change	-0.37%	-0.37%	-2.32%	0.10%	-0.27%	5.62%
4-Week Price Change	-0.35%	-0.35%	-2.53%	0.94%	0.52%	-2.54%
12-Week Price Change	1.66%	1.66%	4.17%	-13.62%	-4.36%	32.48%
52-Week Price Change	8.24%	8.24%	0.12%	-0.19%	57.23%	199.54%
20-Day Average Volume (Shares)	1,716,420	1,716,420	2,098,704	31,661,430	961,793	18,185,252
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%	0.00%	0.13%	0.00%	1.10%
EPS F1 Estimate 12-Week Change	4.59%	4.59%	4.22%	1.01%	-1.14%	5.33%
EPS Q1 Estimate Monthly Change	0.00%	0.00%	0.00%	0.21%	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	B
Momentum Score	D
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.

Disclosures

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Additional Disclosure

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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 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.