Apr 20, 2021

Broadcom Inc. (AVGO)

$462.00 (As of 04/19/21)

Price Target (6-12 Months): **$485.00**

Long Term: 6-12 Months	**Zacks Recommendation:** (Since: 03/19/19) Prior Recommendation: Underperform	**Neutral**
Short Term: 1-3 Months	**Zacks Rank:** (1-5)	**3-Hold**
	Zacks Style Scores:	VGM:B
	Value: B | Growth: B | Momentum: C	

Summary

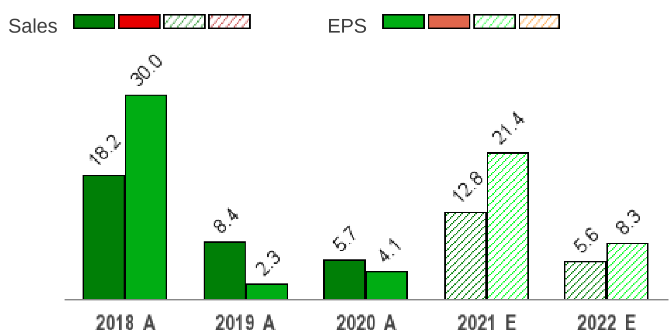
Broadcom is well-positioned to benefit from strength seen across both Semiconductor solutions and Infrastructure software verticals. Robust adoption of Wi-Fi 6 in access gateway, and cable DOCSIS 3.1 products bodes well. Acceleration in 5G deployment, production ramp up and increase in radio frequency (RF) content favors prospects, going ahead. Synergies from acquisitions of CA and Symantec's enterprise security business are anticipated to boost its presence in infrastructure software vertical. Further, an upbeat guidance for second quarter of fiscal 2021 on strong uptick in broadband revenues is encouraging. However, weak enterprise demand is likely to affect Brocade revenues and server storage business. Also, anticipated decline in wireless domain remains a woe. Shares of Broadcom have underperformed the industry year-to-date.

Price, Consensus & Surprise

Data Overview

52-Week High-Low	**$495.14 - $246.80**
20-Day Average Volume (Shares)	**2,058,260**
Market Cap	**$195.5 B**
Year-To-Date Price Change	**9.4%**
Beta	**0.97**
Dividend / Dividend Yield	**$14.40 / 3.1%**
Industry	**Electronics - Semiconductors**
Zacks Industry Rank	**Top 40% (101 out of 254)**
Last EPS Surprise	**0.9%**
Last Sales Surprise	**0.7%**
EPS F1 Estimate 4-Week Change	**0.0%**
Expected Report Date	**06/03/2021**
Earnings ESP	**0.0%**
P/E TTM	**20.4**
P/E F1	**17.2**
PEG F1	**1.4**
P/S TTM	**7.9**

Sales and EPS Growth Rates (Y/Y %)



Sales Estimates (millions of $)

	Q1	Q2	Q3	Q4	Annual*
2022	6,991 E	6,832 E	6,949 E	7,506 E	28,455 E
2021	6,655 A	6,506 E	6,591 E	7,163 E	26,947 E
2020	5,858 A	5,742 A	5,821 A	6,467 A	23,888 A

EPS Estimates

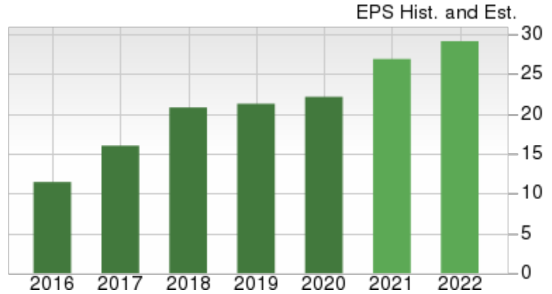
	Q1	Q2	Q3	Q4	Annual*
2022	$7.16 E	$6.99 E	$7.20 E	$7.93 E	$29.15 E
2021	$6.61 A	$6.44 E	$6.59 E	$7.36 E	$26.91 E
2020	$5.25 A	$5.14 A	$5.40 A	$6.35 A	$22.16 A

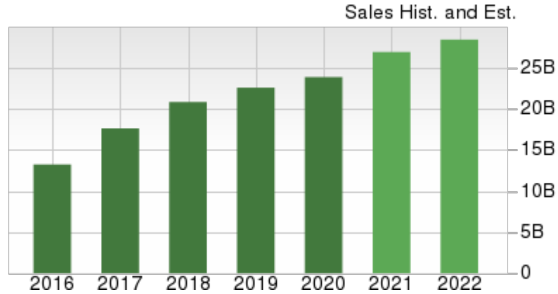
*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and sales estimates, is as of 04/19/2021. The report's text and the analyst-provided price target are as of 04/20/2021.

Overview

Broadcom is a premier designer, developer and global supplier of a broad range of semiconductor devices with a focus on complex digital and mixed signal complementary metal oxide semiconductor (CMOS) based devices and analog III-V based products. The company was formed following the completion of the merger of Avago and Broadcom Corporation on Feb 1, 2016. Headquarters are in San Jose, CA.





Broadcom has been aggressively pursuing strategic acquisitions to diversify end markets beyond semiconductors. The company is looking to strengthen presence in the infrastructure software vertical particularly. This strategy is enabling the company to improve the top line. Buyouts of CA and Symantec's enterprise security business remain noteworthy.

Broadcom reported revenues of $23.888 billion in fiscal 2020. The company has clubbed reporting of revenues from Intellectual property licensing with Semiconductor solutions segment. The company has two reporting segments: Semiconductor solutions and Infrastructure software.

Semiconductor solutions (72% of fiscal 2020 revenues) manage the data transfer to and from the enterprise, telecom, data center, and embedded networking applications. The company's solutions serve the smartphone market with products that include a broad variety of RF semiconductor devices, connectivity solutions and custom touch controllers.

Moreover, the company offers system-on-chip (SoC) platform solutions for Set-Top-Box. Broadband access solutions offer SoC platform solutions. The company's broad set of Ethernet switching and routing products are optimized for data center implementations, service provider networks, enterprise, and small-and-medium business/Remote-Office Branch-Office (SMB/ROBO) markets.

Infrastructure software solutions (28% of fiscal 2020 revenues) involve enterprise, mainframe, and storage area networking solutions, to aid customers to utilize the benefits of automation, resiliency, insights, and security capabilities to manage business processes.

The company faces stiff competition from Intel, Marvell Technology, NVIDIA post Mellanox Technologies buyout, ON Semiconductor post Quantenna Communications buyout, Qorvo, Inc., Qualcomm and Skyworks Solutions to name few.

Source: Zacks Investment Research

Reasons To Buy:

Broadcom is a leading player in the semiconductor market based on its expanding product portfolio, multiple target markets, accretive acquisitions and strong cash flow.

- The Semiconductor Industry serves as a driver, enabler and indicator of technological progress. The Internet of Things (IoT) is creating newer avenues and is largely believed to be the next semiconductor growth opportunity with the potential for billions of connected devices. Broadcom's strong relationships with leading OEMs across multiple target markets have helped it to gain key insights into the requirements of customers. This insight has helped the company to be more efficient and productive in better serving the target markets and customers. In addition, the company maintains an efficient global supply chain with a variable, low-cost operating model.

- Moreover, Broadcom's focus on multiple target markets mitigates operating risks and lessens the exposure to volatility in any single market. Based on its expanding product portfolio, the company is well-positioned to address the needs of rapidly growing technologies like IoT and 5G. We believe that Broadcom's extensive product portfolio, which serves multiple applications within four primary end markets, will help it to gain significant market share going ahead.

- Acquisitions, over time, have been Broadcom's most favored mode for penetrating unexplored markets. We believe that the company is well poised to benefit from synergies from acquisitions of CA and Symantec's enterprise security business. In fact, CA's strength in enterprise software offerings and substantial customer base is anticipated to enable Broadcom in exploring the infrastructure software market and expanding its TAM. Further, the acquisition of LSI Corporation helped the company to diversify its existing business line from wired infrastructure, wireless and industrial businesses into the storage chip market. The addition of Brocade enables the company to further penetrate the FC SAN market and garner competitive prowess in the long run. Avago's merger with Broadcom for a total consideration of $37 billion is arguably the largest of its kind in the semiconductor chip industry and created a behemoth with one of the most diversified communications platforms at combined annual revenues of approximately $15 billion. Synergistic benefits from the merger is likely to increase profitability through economies of scale and mutual sharing of manufacturing expertise.

- Broadcom generates significant cash flow that enables it to pay out consistent dividend. The company paid out aggregate cash dividends of $5.5 billion, $4.2 billion, $2.92 billion, $1.65 billion and $716 million during fiscal 2020, 2019, 2018, 2017 and 2016, respectively. Markedly, Broadcom returned $1.5 billion in forms of cash dividends to shareholders during first-quarter fiscal 2021. The company is committed to returning half of the normalized free cash flow generated in the previous year to shareholders as cash dividends. As part of this strategy, the company announced an 11% hike in its quarterly dividend to $3.60. During fiscal 2020, Broadcom generated cash flow from operations of $12.061 billion. Free cash flow during the fiscal was $11.598 billion compared with $9.265 billion in fiscal 2019. During first-quarter fiscal 2021, Broadcom generated cash flow from operations of $3.113 billion and free cash flow of $2.999 billion. Due to strong and relatively stable cash flow, we believe that the dividend payout (0.72) appears sustainable and makes the stock quite attractive.

Reasons To Sell:

Customer concentration, intensifying competition, integration risks due to frequent acquisitions and leverage balance sheet are key headwinds.

- A significant portion of Broadcom’s revenue comes from a handful of customers. Top five direct customers accounted for more than 30% of the company’s top-line in both fiscal 2020 and fiscal 2019. Loss of any of these top five customers can significantly hurt top-line growth. Apple (including sales to the contract manufacturer) contributed nearly 15% of revenues in fiscal 2020. Moreover, due to the significant exposure, Broadcom’s share price movement depends heavily on Apple’s results (primarily on iPhone’s performance), which doesn’t bode well for the investors.

- Broadcom operates in a highly competitive market. The company faces significant competition in most of its operating markets that negatively impacts top-line growth. Pricing pressure also keeps margin under pressure. In the FBAR technology market, the company faces significant competition from Skyworks surface acoustic wave (SAW) filters. Well-established companies like Cavium, Intel are its competitors in the wired infrastructure market. The acquisition of Brocade makes it a direct competitor of Cisco, a well-known name in the FC SAN market. We expect intensifying competition to keep profitability under pressure at least in the near-term.

- Broadcom’s frequent acquisitions have escalated integration risks. Moreover, we note that the large acquisitions negatively impacted the company’s balance sheet in the form of high level of goodwill and intangible assets, which totaled $58.88 billion or 76.5% of total assets as of Jan 31, 2021.

- Acquisitions have negatively impacted Broadcom’s balance sheet, as high indebtedness adds to the risk of investing in the company. As of Jan 31, 2021, cash & cash equivalents were $9.552 billion while long term debt (including current portion) was $41.932 billion. The company’s total debt to total equity ratio of 174.9%, up from prior quarter's figure of 172%, which indicates a higher liability in repaying the debt. Although the company generates significant cash flow, the high debt level can jeopardize its ability to pursue accretive acquisitions and sustain dividend payout.

Last Earnings Report

Broadcom Q1 Earnings and Revenues Surpass Estimates

Quarter Ending	01/2021
Report Date	Mar 04, 2021
Sales Surprise	0.70%
EPS Surprise	0.92%
Quarterly EPS	6.61
Annual EPS (TTM)	23.50

Broadcom Inc. reported first-quarter fiscal 2021 non-GAAP earnings of $6.61 per share, which beat the Zacks Consensus Estimate by 0.92%. Moreover, the bottom line improved 25.9% from the year-ago quarter and 4.1% sequentially.

Net revenues were $6.655 billion, up 14% from the prior-year quarter. Moreover, the top line surpassed the Zacks Consensus Estimate by 0.7%. On a quarter-over-quarter basis, revenues improved 2.9%.

Segmental Revenues

Beginning first-quarter fiscal 2020, the company clubbed reporting of revenues from Intellectual property licensing with Semiconductor solutions segment. The company now reports in two segments — Semiconductor solutions and Infrastructure software. Management noted that integration of Symantec's enterprise security business is complete.

Semiconductor solutions' revenues (74% of total net revenues) totaled $4.908 billion, up 17% from the year-ago quarter. The upside can be attributed to higher demand for wireless solutions and continued momentum in networking and broadband solutions.

The company witnessed strength in networking end market with revenues up 15% year over year and contributed 29% to Semiconductor Solution revenues. The improvement in networking revenues came on the back of increased spending by telecommunication companies in modernizing infrastructure and enhancing Edge and core networks, and higher cloud spending by data centers. Bookings surged 80% on a year-on-year basis and 62%, sequentially.

In broadband end-market, revenues were up 8% year over year and contributed 15% to Semiconductor Solution revenues, courtesy of robust adoption of Wi-Fi 6 in next-generation access gateway with solid demand from telcos and other service providers for PON and cable DOCSIS products. Telecom and consumer end-markets from retail home routers, continue to benefit from favorable work-from-home trends. However, softness in enterprise domain limited growth.

Revenues from wireless vertical surged 52% year over year and contributed 40% to Semiconductor Solution revenues, driven primarily by increasing RF content and higher volume Wi-Fi 6 and Wi-Fi 6E, the next generation of Wi-Fi 6.

In server storage connectivity domain, revenues were down 22% year over year, on soft demand from enterprise customers. The end-market contributed 12% to Semiconductor Solution revenues.

Meanwhile, industrial and resales revenues were both up 13% and contributed 4% to Semiconductor Solution revenues, on recovery of multiple economic sectors in China.

Infrastructure software revenues (26%) surged 5% year over year to $1.747 billion. The company is well-poised to gain from synergies from acquisitions of CA and Symantec's enterprise security business.

Management noted that in dollar terms, bookings averaged 122% over expiring contracts, while core accounts averaged 137%. Moreover, over 90% of the bookings correspond to recurring subscription and maintenance.

Operating Details

Non-GAAP gross margin expanded 30 basis points (bps) on a year-over-year basis to 73.3%. The improvement can attributed to higher revenue base.

Total operating expenses on a non-GAAP basis decreased 8.1% year over year to $1.096 billion, reflecting the synergies from the completion of integration of Symantec. As a percentage of net revenues, the figure contracted 390 bps to 16.5%.

Non-GAAP operating margin expanded 420 bps from the year-ago quarter's figure to 56.8%, which can be attributed to expansion in gross margin.

Adjusted EBITDA (excluding $139 million of depreciation) was $3.941 billion, accounting for 59.2% of net revenues in the fiscal first quarter.

Balance Sheet & Cash Flow

As of Jan 31, 2021, cash & cash equivalents were $9.552 billion compared with $7.618 billion reported as of Nov 1, 2020.

Broadcom stated that liability management endeavors undertaken in first-quarter fiscal 2021 in terms of refinancing and redeeming of existing debt by issuing new notes, helped the company to extend its weighted average debt maturity to nearly nine years, compared with six years earlier. The weighted average interest rate now stands at 3.8%, compared with prior-quarter's figure of 3.5%.

As of Jan 31, 2021, long-term debt (including current portion of $843 million) was $41.932 billion compared with $41.062 billion as of Nov 1, 2020.

Broadcom generated cash flow from operations of $3.113 billion compared with $3.348 billion in the previous quarter. Capital expenditure totaled $114 million compared with the last reported quarter's figure of $102 million. Free cash flow during the quarter was $2.999 billion compared with

$3.246 billion in the prior quarter.

During the reported quarter, Broadcom returned $1.5 billion in form of dividends to shareholders during the fiscal first quarter. The company paid an additional $225 million for elimination of 521,000 of company's shares.

Guidance

For second-quarter fiscal 2021, the company anticipates revenues of $6.5 billion. Adjusted EBITDA is expected to be approximately 59% of projected revenues in the fiscal second quarter.

Management expects wireless revenues to decline 30-40% on a year-over-year basis, due to seasonality.

In broadband end-market, management projects double-digit year-over-year growth in revenues backed by gains from the roll out of new Wi-Fi6 enabled platforms in fiscal second quarter, with higher value content across North American and European telcos.

In networking domain, the company expects revenues to increase sequentially and on a year-over-year basis, driven by continued strength in demand for switch and routing platforms across cloud customers and telcos despite moderating enterprise campus spending.

Nevertheless, sluggishness in enterprise demand is likely to result in double-digit decline in server storage revenues compared with the year-ago quarter. Notably, the company is optimistic regarding the recovery witnessed in Japan and Europe and expects revenues from resales to register year-over-year growth similar to that of first-quarter fiscal 2021.

Management projects Semiconductor Solutions business to register a similar year-over-year growth as the fiscal first quarter, sustained by strong demand seen across networking and broadband verticals despite seasonal decline in wireless business.

For fiscal second quarter, revenues from Infrastructure software segment is expected to be up in mid-single digits on a year-over-year basis in second-quarter fiscal 2021.

Recent News

On Apr 13, Broadcom revealed that it teamed up with Google Cloud to migrate its core software solutions to the latter's cloud environment.

On Feb 3, Broadcom announced the expiry and final results of the cash tender offers issued in January 2021.

On Jan 14, Broadcom disclosed that its BCM4389 chip is being leveraged by Samsung for its Wi-Fi 6E phone —Samsung Galaxy S21 Ultra.

On Jan 4, Broadcom announced the pricing of senior secured notes in five tranches of different maturities and carrying different interest rates as well.

The company prices notes worth $750 million, having interest rate of 1.95% and maturity in 2028. Another 2.45% senior notes are due 2031 worth $2.75 billion at a discounted price of 99.718%. Principal amount worth $1.75 billion carrying 2.6% interest and maturity in 2033 is priced at 99.790%.

Meanwhile, notes worth $3 billion having interest rate of 3.5% senior notes are slated to mature in 2041 and $1.75 billion of 3.75% senior notes are due 2051.

On Dec 9, Broadcom rolled out its global cyber security aggregator program (CSAP) to offer improved security services to commercial enterprises. The company also expanded its collaborations with several Symantec distributors like Arrow Electronics' Enterprise Computing Solutions Business, SYNNEX Corporation and Westcon.

On Dec 3, Broadcom announced the general availability of 7 nanometer (nm) 800G PAM-4 PHY devices. These devices will enable cloud services providers and data center operators to develop high bandwidth 800G infrastructure networks.

On Dec 2, Broadcom rolled out Trident SmartToR (Smart Top-of-Rack) solution that leverages software-defined pipeline and covers switching, routing, and advanced L4-L7 network services.

On Dec 2, Broadcom stated that it began shipping of Tomahawk-50G (BCM56990) in volume. Also, the company expanded its portfolio of 25.6 terabits per second StrataXGS Tomahawk 4 router chips.

Valuation

Broadcom shares are up 5.5% in the year-to-date period and 86.6% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Computer & Technology sector are up 5.9% and 14.1% in the year-to-date period, respectively. In the past year, the Zacks sub-industry and the sector are up 88.8% and 77.5%, respectively.

The S&P 500 index is up 12.3% in the year-to-date period and 56% in the past year.

The stock is currently trading at 16.52X forward 12-month earnings compared with 17.2 for the Zacks sub-industry, 29.51X for the Zacks sector and 23.28X for the S&P 500 index.

Over the past five years, the stock has traded as high as 21.03X and as low as 8.37X, with a 5-year median of 15.37X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our $485 price target reflects 17.34X forward 12-month earnings.

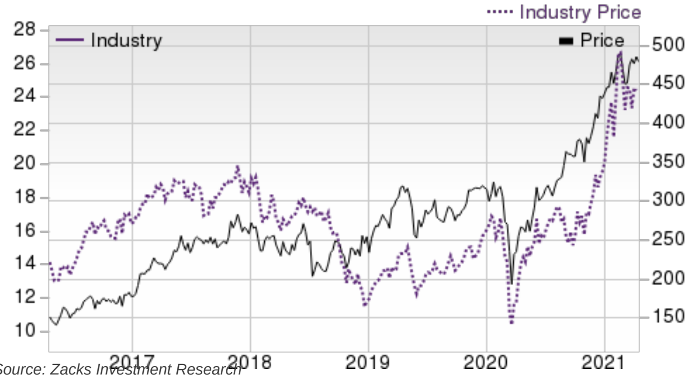
The table below shows summary valuation data for AVGO

Valuation Multiples - AVGO

		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	16.52	17.2	29.51	23.28
	5-Year High	21.03	29.47	29.51	23.83
	5-Year Low	8.37	5.59	16.95	15.3
	5-Year Median	15.37	11.65	20.09	18.01
P/S F12M	Current	6.82	7.92	5.05	4.83
	5-Year High	7.48	8.39	5.05	4.83
	5-Year Low	2.63	4.81	2.8	3.21
	5-Year Median	4.86	5.83	3.5	3.71
EV/EBITDA TTM	Current	12.99	30.84	17.38	18.78
	5-Year High	27	33.03	17.4	18.78
	5-Year Low	7.22	12.52	9.04	9.62
	5-Year Median	11.09	19.49	12.33	13.37

As of 04/19/2021 *Source: Zacks Investment Research*

Industry Analysis **Zacks Industry Rank:** Top 40% (101 out of 254)



Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
NVIDIA Corporation **(NVDA)**	Outperform	1
Texas Instruments Incorporated **(TXN)**	Outperform	2
Analog Devices, Inc. **(ADI)**	Neutral	3
Advanced Micro Devices, Inc. **(AMD)**	Neutral	2
Cisco Systems, Inc. **(CSCO)**	Neutral	2
Intel Corporation **(INTC)**	Neutral	4
Microchip Technology Incorporated **(MCHP)**	Neutral	2
Marvell Technology Group Ltd. **(MRVL)**	Neutral	3

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

Industry Comparison Industry: Electronics - Semiconductors

Industry Peers

	AVGO	X Industry	S&P 500	ADI	AMD	CSCO
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	3	2	2
VGM Score	B	-	-	C	B	D
Market Cap	195.49 B	1.25 B	29.93 B	58.84 B	99.78 B	222.91 B
# of Analysts	13	3	12	12	14	10
Dividend Yield	3.01%	0.00%	1.28%	1.73%	0.00%	2.80%
Value Score	B	-	-	C	F	C
Cash/Price	0.05	0.10	0.06	0.02	0.02	0.14
EV/EBITDA	19.79	10.91	17.13	26.59	57.13	12.35
PEG F1	1.41	2.01	2.40	2.17	1.33	2.62
P/B	8.15	4.51	4.09	4.87	17.05	5.70
P/CF	12.25	19.61	17.07	21.98	58.87	15.74
P/E F1	17.17	20.82	22.40	26.53	42.19	16.40
P/S TTM	7.92	4.07	3.49	10.04	10.22	4.64
Earnings Yield	5.62%	2.56%	4.40%	3.77%	2.37%	6.10%
Debt/Equity	1.71	0.06	0.66	0.39	0.06	0.24
Cash Flow ($/share)	37.71	0.40	6.78	7.14	1.38	3.36
Growth Score	B	-	-	C	A	D
Historical EPS Growth (3-5 Years)	16.58%	3.18%	9.39%	11.07%	90.19%	8.85%
Projected EPS Growth (F1/F0)	21.45%	38.41%	15.50%	22.47%	50.94%	0.31%
Current Cash Flow Growth	13.51%	13.51%	0.72%	-3.50%	97.05%	-2.66%
Historical Cash Flow Growth (3-5 Years)	35.33%	8.12%	7.37%	16.62%	49.59%	2.34%
Current Ratio	2.14	2.98	1.39	1.57	2.54	1.61
Debt/Capital	63.16%	5.97%	41.26%	28.20%	5.35%	19.63%
Net Margin	16.01%	4.95%	10.59%	23.99%	25.50%	21.09%
Return on Equity	38.32%	7.89%	15.09%	16.68%	32.60%	31.86%
Sales/Assets	0.31	0.66	0.50	0.27	1.37	0.51
Projected Sales Growth (F1/F0)	12.81%	11.95%	7.49%	15.83%	38.54%	-0.26%
Momentum Score	C	-	-	B	A	F
Daily Price Change	-3.51%	-2.04%	-0.35%	-1.63%	-1.27%	0.09%
1-Week Price Change	-1.30%	-1.46%	1.43%	-1.07%	-0.74%	1.36%
4-Week Price Change	-2.79%	-4.89%	5.03%	1.56%	1.01%	5.07%
12-Week Price Change	-0.60%	-0.97%	11.52%	2.08%	-13.83%	17.37%
52-Week Price Change	78.88%	115.99%	55.92%	55.49%	42.37%	24.24%
20-Day Average Volume (Shares)	2,058,260	317,016	1,809,778	2,383,467	40,022,388	20,405,598
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	1.07%	0.00%
EPS F1 Estimate 4-Week Change	0.00%	0.00%	0.05%	0.25%	1.07%	0.05%
EPS F1 Estimate 12-Week Change	1.26%	6.22%	1.87%	5.73%	10.96%	1.06%
EPS Q1 Estimate Monthly Change	0.00%	0.00%	0.00%	0.25%	1.04%	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

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

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.

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

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 forwardlooking 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 mediumterm 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 mostrecent 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.