

Northern Trust Corp (NTRS)

\$96.31 (As of 02/19/21)

Price Target (6-12 Months): **\$101.00**

Long Term: 6-12 Months

Zacks Recommendation:

Neutral

(Since: 06/15/20)

Prior Recommendation: Underperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:F

Value: D

Growth: F

Momentum: C

Summary

Shares of Northern Trust have outperformed the industry in the past year. Also, the company has a decent earnings surprise history, having surpassed the Zacks Consensus Estimate in two of the trailing four quarters for as many misses. The company continues to gain from strong wealth management operations and diversified products along with the implementation of the Target2-Securities strategy. Also, robust organic growth and efforts to improve productivity keep the company well poised for growth in the near term. Further, improving credit quality is a tailwind. Efforts to enhance shareholders' value through capital deployment activities is encouraging. Nevertheless, increasing costs on account of investments in technology and personnel expenses keep hurting financials. Moreover, a decline in loan balances keeps the top line under pressure.

Price, Consensus & Surprise

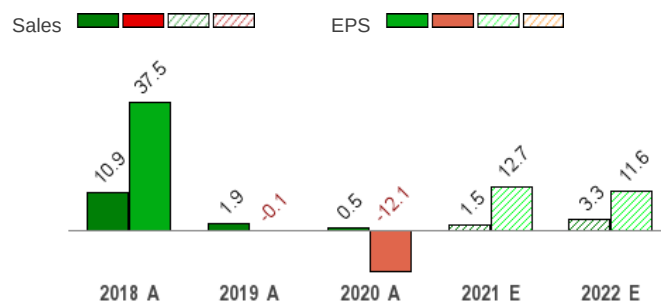


Source: Zacks Investment Research

Data Overview

52-Week High-Low	\$99.98 - \$60.67
20-Day Average Volume (Shares)	834,158
Market Cap	\$20.0 B
Year-To-Date Price Change	3.4%
Beta	1.08
Dividend / Dividend Yield	\$2.80 / 2.9%
Industry	Banks - Major Regional
Zacks Industry Rank	Top 18% (45 out of 253)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	-2.0%
Last Sales Surprise	1.6%
EPS F1 Estimate 4-Week Change	1.6%
Expected Report Date	NA
Earnings ESP	0.0%
P/E TTM	16.6
P/E F1	14.7
PEG F1	1.5
P/S TTM	3.2

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2022	1,559 E	1,588 E	1,610 E	1,631 E	6,392 E
2021	1,520 E	1,534 E	1,544 E	1,558 E	6,190 E
2020	1,588 A	1,506 A	1,485 A	1,522 A	6,101 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2022	\$1.67 E	\$1.94 E	\$1.90 E	\$2.02 E	\$7.33 E
2021	\$1.49 E	\$1.72 E	\$1.64 E	\$1.70 E	\$6.57 E
2020	\$1.55 A	\$1.46 A	\$1.32 A	\$1.49 A	\$5.83 A

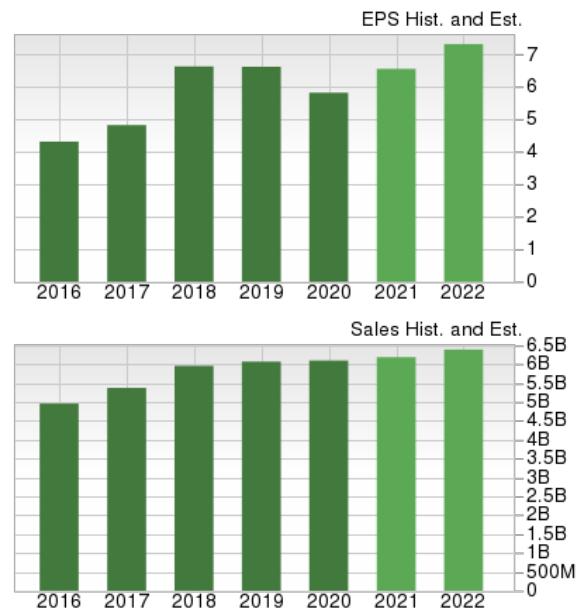
*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and sales estimates, is as of 02/19/2021. The report's text and the analyst-provided price target are as of 02/22/2021.

Overview

Northern Trust Corporation is the holding company for its main subsidiary, Northern Trust Company, as well as a number of other banking and non-banking financial service subsidiaries. The company's main sources of revenue include two of its primary business units: Corporate and Institutional Services (C&IS) and Wealth Management (WM). Asset management and related services to WM and C&IS clients are provided primarily by Asset Management business.

- The C&IS unit provides asset servicing, asset management and related services to clients including corporate and public retirement funds, foundations and government funds; commercial banking services to large and mid-sized corporations and financial institutions; and foreign exchange services. As of Dec 31, 2020, total C&IS assets under custody (AUC) were \$10.4 trillion and assets under management (AUM) were \$1.06 trillion.
- The WM division delivers customized investment management and trust services to high net worth individuals and families across 18 states of North America and Washington, D.C., as well as offices in London and Guernsey. As of Dec 31, 2020, total AUC was \$875.1 billion and total AUM was \$347.8 billion.
- Treasury and Other includes income and expense related to the wholesale funding activities and the investment portfolios of the Corporation and the Bank and nonrecurring items not allocated to C&IS and WM.



In November 2018, Northern Trust acquired Chicago-based BEX LLC — a foreign exchange software solutions provider — for \$37.6 million to strengthen its Global Foreign Exchange business. In June 2018, Northern Trust completed the acquisition of Citadel's Omnium Technology Platform. In October 2017, Northern Trust acquired UBS Asset Management's fund administration servicing units in Luxembourg and Switzerland.

As of Dec 31, 2020, the company had total assets worth \$170 billion, AUM of \$1.41 trillion and AUC of \$11.3 trillion.



Source: Zacks Investment Research

Reasons To Buy:

- ▲ Against the backdrop of macroeconomic headwinds, Northern Trust, with heightened aggression was focused on initiating new business over the last few years. Additionally, Northern Trust's innovative technology-driven hedge fund administration capabilities brought to the marketplace via Northern Trust Hedge Fund Services clearly provides an attractive proposition to the clients. Further, implementation of the Target2-Securities (T2S) strategy to provide better services to its clients is commendable.
- ▲ Northern Trust's capital deployment activities seem impressive. The company had increased its quarterly dividend by 17% in July 2019. Also, it had a share repurchase program in place that was suspended mid-March following the coronavirus crisis. Notably, following the announcement of the 2020 stress test results, the company maintained the dividend level as before and kept share repurchases suspended in the fourth quarter of 2020 as well. Notably, the company's debt/equity ratio compares favorably with that of the broader industry, highlighting the fact that such dividend hikes are sustainable in the future.
- ▲ Organic growth is Northern Trust's key strength, as reflected by its revenue growth story. Revenues witnessed a compounded annual growth rate (CAGR) of 5.3% over the last five years (2016-2020) on rising non-interest as well as net interest income, with some annual volatility. We believe the company is well positioned to maintain this trend in the days to come.
- ▲ Northern Trust benefited from the rise in interest rates in the past few years. In 2016, 2017, 2018 and 2019, the net interest margin improved on a year-over-year basis, despite three rate cuts in 2019. Also, a continued rise in yields on earning assets provided support. Though margin declined in 2020 on low rates, the same is likely to get support in the quarters ahead from a decent lending scenario.
- ▲ For supporting the new investment activities, management is taking steps to tackle expense growth and reinstate operating leverage over the upcoming quarters. Northern Trust continues to pursue meaningful additional efforts to improve productivity and deliver financial benefits beyond original targets. In 2014, the company established internal productivity targets on both the revenue and expense side. Ongoing efforts are expected to result in annual run rate savings of approximately \$50 million on a net basis. The ultimate measure of the success of these efforts was the company's ability to consistently achieve its financial target of a return on equity between 10% and 15%. Notably, the company recorded ROE of 11.2% as of Dec 31, 2020.
- ▲ Though there was a sequential uptick in the third quarter of 2012, credit quality improved and continued to move toward a normalized level in 2013 and thereafter. Notably, provision for credit losses remained low in 2014, driven by an improvement in commercial and institutional along with commercial and residential real estate loans. Though provisions escalated in 2020 on coronavirus concerns, the same recorded a benefit in the last five years (ended 2019). We believe, with the continuation of such a favorable trend in the future, the company will be able to strengthen its earnings.
- ▲ Shares of Northern Trust have outperformed the industry in the past year. With this favorable trend, the company's current-year earnings estimates have been revised 1.7% upward over the past 30 days. Therefore, given the progress on fundamentals and positive estimate revisions, the stock has upside potential.

Northern Trust remains focused on initiating new business to tackle macroeconomic headwinds. Rising revenues bolster organic growth, while improved credit quality boosts bottom-line growth.

Reasons To Sell:

- ▼ Despite successful implementation of expense reduction initiatives, costs escalated on ongoing investments in technology driving compensation and equipment and software expenses. Notably, non-interest expenses witnessed a CAGR of 5.8% over the last five years (2016–2020). We believe an increasing trend in expenses will remain a hindrance for bottom-line growth.
- ▼ Northern Trust's loan balances have been witnessing a declining trend, which keeps its interest income under pressure. Though loans and leases escalated in 2020 on rising commercial and institutional, private client, and commercial real estate loans, in the last four years (ended 2019), it witnessed a negative CAGR of 2.4%. The company has recorded declines, majorly in the commercial and industrial, along with commercial and residential real estate loans, due to lack of confidence and uncertainties related to trade war and global economic slowdown prevailing in the markets. Therefore, further decline in loans might impact its top-line expansion.
- ▼ As of Dec 31, 2020, the company had debt level of \$8.9 billion, which declined from the past several years. However, cash and due from banks of \$2.2 billion also witnessed a downward trend over the same time period. Given such high debt burden, the company does not seem to be well positioned in terms of its liquidity profile and hence is might not be able to continue meeting debt obligations in the near term if the economic situation worsens.
- ▼ Northern Trust runs a global business. Changing conditions of the global financial markets and general economic conditions could adversely affect the company's businesses. Weak economic conditions had affected wealth creation, investment preferences, trading activities, and savings patterns, which in turn impacted demand for trust and investment products and services. Amid volatile equity markets and in the absence of a sustained recovery, reduction in transaction volumes might affect earnings in the coming quarters.
- ▼ The stock seems overvalued compared with the broader industry. Its price-earnings (F1) and price-to-book value ratios are above the respective industry averages.

Despite cost-saving initiatives, rising expenses on account of investments in technology is likely to deter bottom-line growth. Also, declining loan balance remains a key headwind for Northern Trust.

Last Earnings Report

Northern Trust's Q4 Earnings Miss on Higher Expenses

Northern Trust delivered fourth-quarter 2020 adjusted earnings per share of \$1.49, missing the Zacks Consensus Estimate of \$1.52, on lower revenues. Also, the reported figure declined 12.4% year over year.

Results were negatively impacted by lower net interest income, partly offset by a rise in fee income. In addition, decline in net interest margin was a negative. Moreover, escalating operating expenses was a major drag. However, rise in assets under custody and assets under management were driving factors. Moreover, credit provision was a tailwind.

Including certain one-time items, net income came in at \$240.9 million or \$1.12 per share, compared with the \$371.1 million or \$1.70 per share reported in the prior-year quarter.

For full-year 2020, net income was \$1.2 billion or \$5.46 per share compared with the prior year's \$1.5 billion or \$6.63 per share. The Zacks Consensus Estimate was pinned at \$5.83.

Revenues Down, Costs Flare Up

Total revenues of \$1.53 billion were down 2% year on year. The revenue figure, however, beat the Zacks Consensus Estimate of \$1.5 billion.

For full-year 2020, revenues on a fully taxable equivalent basis, came in at \$6.1 billion, flat year over year. The figure is also in line with the Zacks Consensus Estimate.

On a fully-taxable equivalent basis, net interest income of \$345.1 million in the fourth quarter declined 20%, year on year, mainly on lower net interest margin, negated by rise in average earning assets to some extent.

Net interest margin (NIM) came in at 1.05%, shrinking 54 basis points from the prior-year quarter. This decline chiefly reflects the impact of lower interest rates and a balance-sheet mix shift.

Consolidated Trust, Investment and Other Servicing Fees summed \$1.03 billion, up 3% year on year.

Non-interest income climbed 5% from the year-ago quarter to \$1.19 billion. Rise in trust, investment and other servicing fees, foreign-exchange trading income, treasury management fees, along with other operating income and higher security commissions and trading income, led to this upsurge.

Non-interest expenses flared up 7% year over year to \$1.15 billion during the October-December period. This upswing mainly resulted from an elevation in compensation, employee benefits, equipment and software, outside service and occupancy expenses. These were partly muted by lower other expenses.

Assets Under Management and Custody

As of Dec 31, 2020, Northern Trust's total assets under custody climbed 22% year over year to \$11.3 trillion, while total assets under management increased 14% to \$1.41 trillion.

Credit Quality: A Concern

Credit metrics deteriorated during the December-end quarter. Total allowance for credit losses came in at \$259.9 million, significantly up 109% year over year. Net charge-offs were \$5.5 million compared with the \$2.3 million reported in the year-ago quarter.

Credit provision was \$2.5 million in the fourth quarter compared with the \$1 million reported in the prior-year quarter. Further, non-accrual assets surged 52.5% year over year to \$132.4 million as of Dec 31, 2020.

Strong Capital Position

Under the Advanced Approach, as of Dec 31, 2020, Tier 1 capital ratio, total capital ratio and Tier 1 leverage ratio came in at 14.5%, 15.9% and 7.6%, compared with the 15%, 16.8% and 8.7%, respectively, witnessed in the prior-year quarter. All ratios exceeded the regulatory requirements.

Return on average common equity was 8.8% compared with the year-earlier quarter's 14.8%. Return on average assets was 0.67% compared with the 1.25% witnessed in the year-ago quarter.

During 2020, Northern Trust repurchased 3.28 million shares for \$299.8 million at an average price of \$91.49 per share. This includes shares related to share-based compensation.

Quarter Ending	12/2020
Report Date	Jan 21, 2021
Sales Surprise	1.63%
EPS Surprise	-1.97%
Quarterly EPS	1.49
Annual EPS (TTM)	5.82

Recent News

Northern Trust to Launch Custodian for Cryptocurrency - Dec 9, 2020

Northern Trust in partnership with Standard Chartered's innovation and ventures unit, SC Ventures, is introducing an institutional-grade custodian for cryptocurrencies — Zodia Custody.

The custodian is expected to start operating in London next year, post fulfilling all regulatory filings and customary closing conditions, and is subject to registration with the U.K. Financial Conduct Authority.

Zodia is a perfect combination of traditional custody principles and expertise of a bank with the benefits provided by a fintech company. These include an infrastructure that meets the high standards and expectations of institutional investors through a platform that adapts to the changing preferences of clients and the market.

Also, Zodia will provide custody services for the most-traded cryptocurrency assets, including Bitcoin, Ethereum, XRP, Litecoin and Bitcoin Cash, which represent the majority of client demand and activity. These assets account for nearly 80% of the total assets that are traded on the top cryptocurrency exchanges. Notably, the lender intends to keep adding more cryptocurrencies in the near term.

Maxime De Guillebon, Chief Executive Officer of Zodia, said "We combine the risk management, compliance, governance and security approach of a regulated financial institution with the cutting-edge innovation of crypto asset and key management technologies."

Northern Trust's Ratings Affirmed by Moody's, Outlook Stable - Nov 12, 2020

All ratings and assessments of Northern Trust have been affirmed by Moody's Investors Service. The rating outlook remains stable for all three banks.

Its long-term senior unsecured debt rating is affirmed at A2, while its BCA is a1 and counterparty risk assessment is Aa3(cr)/Prime-1(cr).

Reasons Behind the Rating Affirmation

Per Moody's, the bank has shown strong performance even during the uncertain economic environment caused by the coronavirus outbreak.

Although the low interest rate environment has been hurting the profitability, the bank has solid institutional investment and asset servicing franchises that support growth. In fact, its large wealth management business aids in earnings diversification.

Moreover, the rating affirmation comes on the back of the bank's solid credit and liquidity profiles.

Notably, because of the near-zero interest rate environment in the United States and a general low rate environment across the globe, banks have been facing revenue growth pressures. Because of lower rates, their net interest income and net interest margins have been negatively impacted throughout this year.

Hence, Northern Trust has been facing difficulties in organically growing their fee income and thus, is resorting to other means. It is focusing on enhancing products to deliver revenue growth either through inorganic growth methods or third-party partnerships.

Despite these challenges, Moody's believes that the bank has a robust liquidity position, which comes from its investment servicing franchises. In fact, Northern Trust has generous amounts of liquid assets, which safeguard them from any market shock.

While the bank is exposed to huge operational risks, given the size and composition of their loan portfolios, Moody's does not see it to be substantial enough to reflect negatively on its assessment of overall asset risk.

What Can Lead to an Upgrade in Ratings?

A rating upgrade is unlikely for Northern Trust over the next 12-18 months. Nevertheless, an upward rating pressure is possible if the bank demonstrates material improvement in core profitability while maintaining a solid capital and liquidity position.

When Can the Ratings be Downgraded?

A downgrade in ratings can happen if the bank's profitability falls below the current levels with unlikely chances of a rebound. Moreover, a significant reduction in the capitalization might result in a negative rating pressure.

Dividend Update

On Jan 20, Northern Trust announced a quarterly common stock dividend of 70 cents per share on its common stock. This dividend will be paid out on Apr 1 to shareholders on record as of Mar 12, 2021.

Valuation

Northern Trust's shares are up 3.4% so far this year but down 0.2% over the trailing 12-month period. Stocks in the Zacks sub-industry and the Zacks Finance sector are up 14.6% and 7.9% in the year-to-date period, respectively. Over the past year, the Zacks sub-industry and sector are up 2% and 7.7%, respectively.

The S&P 500 Index is up 4.4% and 23.3% in the year-to-date period and trailing 12-month period, respectively.

The stock is currently trading at 14.24X forward 12 months earnings, which compares to 13.01X for the Zacks sub-industry, 17.03X for the Zacks

sector and 22.68X for the S&P 500 Index.

Over the past five years, the stock has traded as high as 23.19X and as low as 6.53X, with a 5-year median of 11.8X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$101 price target reflects 15.14X forward earnings.

The table below shows summary valuation data for NTRS

Valuation Multiples - NTRS					
		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	14.42	13.01	17.03	22.68
	5-Year High	21.62	14.2	17.12	23.8
	5-Year Low	9.14	8.01	11.59	15.3
	5-Year Median	15.27	11.56	14.56	17.84
P/TB TTM	Current	1.99	2.07	3.9	20.43
	5-Year High	2.89	2.68	4.05	20.58
	5-Year Low	1.45	1.21	2.05	7.79
	5-Year Median	2.29	2.11	3.56	11.07
P/S F12M	Current	3.22	4	7.17	4.55
	5-Year High	4.29	4.59	7.17	4.55
	5-Year Low	2.06	2.39	5.02	3.21
	5-Year Median	3.38	3.59	6.12	3.68

As of 02/19/2021

Source: Zacks Investment Research

Industry Analysis Zacks Industry Rank: Top 18% (45 out of 253)



Source: Zacks Investment Research

Top Peers

Company (Ticker)	Rec	Rank
M&T Bank Corporation (MTB)	Outperform	2
The Bank of New York Mellon Corporation (BK)	Neutral	3
Citigroup Inc. (C)	Neutral	3
First Republic Bank (FRC)	Neutral	2
HSBC Holdings plc (HSBC)	Neutral	3
JPMorgan Chase & Co. (JPM)	Neutral	3
State Street Corporation (STT)	Neutral	3
U.S. Bancorp (USB)	Neutral	3

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

Industry Comparison Industry: Banks - Major Regional				Industry Peers		
	NTRS	X Industry	S&P 500	BK	MTB	STT
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Outperform	Neutral
Zacks Rank (Short Term)	3	-	-	3	2	3
VGM Score	F	-	-	B	F	C
Market Cap	20.04 B	37.50 B	27.94 B	37.50 B	19.24 B	25.38 B
# of Analysts	7	9	13	8	8	8
Dividend Yield	2.91%	2.93%	1.41%	2.93%	2.93%	2.89%
Value Score	D	-	-	B	F	B
Cash/Price	3.23	1.84	0.06	5.69	1.44	4.80
EV/EBITDA	-14.41	-0.45	14.71	-14.80	-0.45	-17.37
PEG F1	1.51	2.01	2.38	1.32	NA	1.23
P/B	1.86	1.22	3.87	0.91	1.29	1.07
P/CF	10.12	10.54	15.57	9.67	13.95	9.10
P/E F1	14.79	13.17	20.85	10.59	12.37	10.45
P/S TTM	3.18	3.00	3.10	2.22	3.06	2.10
Earnings Yield	6.82%	7.60%	4.73%	9.45%	8.08%	9.56%
Debt/Equity	0.42	0.75	0.66	0.64	0.29	0.58
Cash Flow (\$/share)	9.51	4.75	6.64	4.38	10.75	7.91
Growth Score	F	-	-	D	F	F
Historical EPS Growth (3-5 Years)	12.73%	7.45%	9.32%	7.84%	11.83%	7.25%
Projected EPS Growth (F1/F0)	12.62%	35.52%	13.98%	-0.34%	21.94%	2.72%
Current Cash Flow Growth	-5.52%	-5.52%	2.02%	-26.64%	-38.17%	-28.02%
Historical Cash Flow Growth (3-5 Years)	10.90%	5.26%	7.55%	-4.75%	1.90%	-1.30%
Current Ratio	0.68	0.85	1.38	0.69	1.01	0.57
Debt/Capital	28.19%	41.57%	41.22%	36.59%	21.30%	34.51%
Net Margin	19.19%	19.09%	10.60%	21.37%	21.54%	20.04%
Return on Equity	12.25%	8.09%	14.86%	9.50%	9.24%	11.28%
Sales/Assets	0.04	0.04	0.51	0.04	0.05	0.04
Projected Sales Growth (F1/F0)	1.46%	-1.74%	6.63%	-2.16%	-2.74%	-1.31%
Momentum Score	C	-	-	B	D	A
Daily Price Change	0.31%	2.20%	0.55%	0.33%	2.20%	-3.71%
1-Week Price Change	1.01%	2.37%	1.44%	-0.24%	1.30%	-1.70%
4-Week Price Change	2.22%	9.52%	1.51%	0.14%	3.78%	-3.55%
12-Week Price Change	-0.59%	21.16%	6.62%	4.83%	22.63%	-0.43%
52-Week Price Change	-6.22%	-0.89%	8.08%	-7.66%	-11.54%	-7.65%
20-Day Average Volume (Shares)	834,158	4,778,897	2,033,954	6,082,560	679,216	2,665,537
EPS F1 Estimate 1-Week Change	0.00%	0.00%	0.00%	0.00%	0.00%	-1.17%
EPS F1 Estimate 4-Week Change	1.57%	6.85%	0.71%	-3.01%	13.49%	-0.62%
EPS F1 Estimate 12-Week Change	5.12%	21.59%	2.08%	1.30%	18.94%	4.12%
EPS Q1 Estimate Monthly Change	1.49%	4.29%	0.23%	-7.61%	14.88%	-2.03%

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	F
Momentum Score	C
VGM Score	F

As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

Disclosures

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

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

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

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

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

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

Additional Disclosure

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

Returns quoted represent past performance which is no guarantee of future results. Investment returns and principal value will fluctuate so that when shares are redeemed, they may be worth more or less than their original cost. Current performance may be higher or lower than the performance shown.

Investing involves risk; principal loss is possible. There is no guarantee that companies that can issue dividends will declare, continue to pay or increase dividends.

Glossary of Terms and Definitions

52-Week High-Low: The range of the highest and lowest prices at which a stock has traded during the past year. This range is determined based on the stock's daily closing price which may differ from the intra-day high or low. Many investors use it as a technical indicator to determine a stock's current value and future price movement. The idea here is that if price breaks out from the 52-week range, in either direction, the momentum may continue in the same direction.

20-Day Average Volume (Shares): The average number of shares of a company traded in a day over the last 20 days. It is a direct indication of a security's overall liquidity. The higher the average daily trading volume, the easier it is to enter or exit the stock at a desired price with more buyers and sellers being available.

Daily Price Change: This is the percentage difference between a trading day's closing price and the prior trading day's closing price. This item is updated at 9 p.m. EST each day.

1-Week Price Change: This is the percentage change in a stock's closing price over the last 5 trading days. This change reflects the collective buying and selling sentiment over the 1-week period.

A strong weekly price increase for the stock, especially when accompanied by increased volume, is an indication of it gaining momentum.

4-Week Price Change: This is the percentage change in a stock's closing price over the last 20 trading days or past 4 weeks. This is a medium-term price change metric and an indication of the stock gaining momentum.

12-Week Price Change: This is the percentage change of a stock's closing price over the last 60 trading days or past 12 weeks. Similar to 4-week price change, this is a medium-term price change metric. It shows whether a stock has been enjoying strong investor demand, or if it has been in consolidation, or distress over this period.

52-Week Price Change: This is the percentage change in a stock's closing price over the last 260 trading days or past 52 weeks. This long-term price change metric is a good reference point for investors. Some investors seek stocks with the best percentage price change over the last 52 weeks, expecting the momentum to continue.

Market Cap: The number of outstanding common shares of a company times its latest price per share. This figure represents a company's size, which indicates various characteristics, including price stability and risk, in which investors could be interested.

Year-To-Date Price Change: Change in a stock's daily closing price in the period of time beginning the first day of the current calendar year through to the previous trading day.

of Analysts: Number of EPS estimates used in calculating the current-quarter consensus. These estimates come from the brokerage analysts tracking this stock. However, the number of such analysts tracking this stock may not match the number of estimates, as all brokerage analysts may not come up with an estimate or provide it to us.

Beta: A measure of risk commonly used to compare the volatility of a stock to the overall market. The S&P 500 Index is the base for calculating beta and carries a value of 1. A stock with beta below 1 is less risky than the market as a whole. And a stock with beta above 1 is riskier.

Dividend: The portion of earnings a company is expected to distribute to its common shareholders in the next 12 months for each share they own. Dividends are usually paid quarterly. Dividend payments reflect positively on a company and help maintain investors' trust. Investors typically find dividend-paying stocks appealing because the dividend adds to any market price appreciation to result in higher return on investment (ROI). Moreover, a steady or increasing dividend payment provides investors a cushion in a down market.

Dividend Yield: The ratio of a company's annual dividend to its share price. The annual dividend used in the ratio is calculated based on the most recent dividend paid by the company. Dividend yield is an estimate of the dividend-only return from a stock in the next 12 months. Since dividend itself doesn't change frequently, dividend yield usually changes with a stock's price movement. As a result, often an unusually high dividend yield is a result of weak stock price.

S&P 500 Index: The Standard & Poor's 500 (S&P 500) Index is an unmanaged group of securities considered to be representative of the stock market in general. It is a market-capitalization-weighted index of stocks of the 500 largest U.S. companies. Each stock's weight in the index is proportionate to its market value.

Industry: One of the 250+ groups that Zacks classifies all stocks into based on the nature of business. These groups are termed as expanded (aka "X") industries and map to their respective (economic) sectors; Zacks has 16 sectors.

Zacks Industry Rank: The Zacks Industry Rank is determined by calculating the average Zacks Rank for all stocks in the industry and then assigning an ordinal rank to it. For example, an industry with an average Zacks Rank of 1.6 is better than an industry with an average Zacks Rank of 2.3. So, the industry with the better average Zacks Rank would get a better Zacks Industry Rank. If an industry has the best average Zacks Rank, it would be considered the top industry (1 out of 250+), which would place it at the top 1% of Zacks-ranked industries. Studies have shown that roughly half of a stock's price movement can be attributed to the industry group it belongs to. In fact, the top 50% of Zacks-ranked industries outperforms the bottom 50% by a factor of more than 2 to 1.

Last EPS Surprise: The percentage deviation of a company's last reported earnings per share from the Zacks Consensus Estimate. Companies with a positive earnings surprise are more likely to surprise again in the future (or miss again if they recently missed).

Last Sales Surprise: The percentage deviation of a company's last reported sales from the Zacks Consensus Estimate.

Expected Report Date: This is an estimated date of a company's next earnings release. The information originated or gathered by Zacks Investment Research from its information providers or publicly available sources is the basis of this estimate.

Earnings ESP: The Zacks Earnings ESP compares the Most Accurate Estimate to the Zacks Consensus Estimate for the yet-to-be reported quarter. The Most Accurate Estimate is the most recent version of the Zacks Consensus EPS Estimate. The idea here is that analysts revising their estimates closer to an earnings release have the latest information, which could potentially be more accurate than what they and others contributing to the consensus had predicted earlier. Thus, a positive or negative Earnings ESP reading theoretically indicates the likely deviation of the actual earnings from the consensus estimate. However, the model's predictive power is significant for positive ESP readings only. A positive Earnings ESP is a strong predictor of an earnings beat, particularly when combined with a Zacks Rank #1 (Strong Buy), #2 (Buy) or #3 (Hold). Our research shows that stocks with this combination produce a positive surprise nearly 70% of the time.

Periods:

TTM: Trailing 12 months. Using TTM figures is an effective way of analyzing the most-recent financial data in an annualized format that helps neutralize the effects of seasonality and other quarter-to-quarter variation.

F1: Current fiscal year. This period is used to analyze the estimates for the ongoing full fiscal year.

F2: Next fiscal year. This period is used to analyze the estimates for the next full fiscal year.

F12M: Forward 12 months. Using F12M figures is an effective way of analyzing the near-term (the following four unreported quarters) estimates in an annualized manner. Instead of typically representing estimates for the full fiscal year, which may not represent the nitty-gritty of each quarter, F12M figures suggest an all-inclusive annualized estimate for the following four quarters. The annualization helps neutralize the potential effects of seasonality and other quarter-to-quarter variations.

P/E Ratio: The price-to-earnings ratio measures a company's current market price per share relative to its earnings per share (EPS). Usually, the trailing-12-month (TTM) EPS, current-fiscal-year (F1) EPS estimate, or forward-12-month (F12M) EPS estimate is used as the denominator. In essence, this ratio shows what the market is willing to pay today for each dollar of EPS. In other words, this ratio gives a sense of what the relative value of the company is at the already reported level of earnings or at a future level of earnings.

It is one of the most widely-used multiples for determining the value of a company and helps comparing its valuation with that of a competitor, the industry group or a benchmark.

PEG Ratio: The price/earnings to growth ratio is a stock's P/E ratio using current fiscal year (F1) EPS estimate divided by its expected EPS growth rate over the coming 3 to 5 years. This ratio essentially determines a stock's value by factoring in the company's expected earnings growth and is thus believed to provide a more complete picture than just the P/E ratio, particularly for faster-growing companies.

P/S Ratio: The price-to-sales ratio is calculated as a company's current price per share divided by trailing 12 months (TTM) sales or revenues per share. This ratio shows what the market is willing to pay today for each dollar of TTM sales per share. The P/S ratio is at times the only valuation metric when the company has yet to become profitable.

Cash/Price Ratio: The cash-to-price ratio or Cash Yield is calculated as cash and marketable securities per share divided by the company's current share price. Like the earnings yield, which shows the anticipated yield (or return) on a stock from earnings for each dollar invested, the cash yield does the same, with cash being the source of return instead of earnings. For example, a cash/price ratio of 0.08 suggests a return of 8% or 8 cents for every \$1 investment.

EV/EBITDA Ratio: The EV/EBITDA ratio, also known as Enterprise Multiple, is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by EBITDA (earnings before interest, taxes, depreciation and amortization). Usually, trailing-12-month (TTM) or forward-12-month (F12M) EBITDA is used as the denominator.

EV/Sales Ratio: The enterprise value-to-sales ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by annual sales. It is an expansion of the P/S valuation, which uses market value instead of enterprise value. The EV/Sales ratio is perceived as more accurate than P/S, in part, because the market capitalization does not take a company's debt into account when valuing it.

EV/CF Ratio: The enterprise value-to-cash flow ratio is calculated as a company's enterprise value (market capitalization + value of total long-term debt + book value of preferred shares - cash and marketable securities) divided by the trailing-12-month (TTM) operating cash flow. It's a measure of how long it would take to buy the entire business if you were able to use all the company's operating cash flow.

The EV/CF ratio is perceived as more accurate than the P/CF ratio, in part, because the market price does not take a company's debt into account when valuing it.

EV/FCF Ratio: The enterprise value-to-free cash flow metric compares a company's enterprise value to its trailing-12-month (TTM) free cash flow (FCF). This metric is very similar to the EV/CF ratio, but is considered a more exact measure owing to the fact that it uses free cash flow, which subtracts capital expenditures (CAPEX) from a company's total operating cash flow, thereby reflecting the actual cash flow available for funding growth activities and payments to shareholders.

P/EBITDA Ratio: The P/EBITDA ratio is calculated as a company's per share market value divided by EBITDA (earnings before interest, taxes, depreciation, and amortization). This metric is very similar to the EV/EBITDA ratio, but is considered a little less exact measure as it uses market price, which does not take a company's debt into account. However, since EBITDA is often considered a proxy for cash income, the metric is used as a measure of what the market is willing to pay today for each dollar of the company's cash profitability in the trailing 12 months (TTM) or forward 12 months (F12M).

P/B Ratio: The price-to-book ratio is calculated as a company's current price per share divided by its book value (total assets – liabilities – preferred stocks) per share. In short, the book value is how much a company is worth. In other words, it reflects the total value of a company's assets that its common shareholders would receive if it were to be liquidated. So, the P/B ratio indicates whether you're paying higher or lower than what would remain if the company went bankrupt immediately. Investors typically use this metric to determine how a company's stock price stacks up to its intrinsic value.

P/TB Ratio: The price-to-tangible-book value ratio is calculated as 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.