

Recommendation [as of September 07, 2023]: SELL



GICS Sector: Financials
GICS Industry: Regional Banks

Sector Ranking: marketweight

SPGMI's Quality Ranking: B+

**Business Summary:** Western Alliance Bancorporation operates as the bank holding company for Western Alliance Bank that provides various banking products and related services primarily in Arizona, California, and Nevada. It operates through Commercial and Consumer Related segments. The company offers deposit products, including contd...





MODERATE
Low
High
High
Low



Total Return[%CAGR]	YTD	1Yr	3Yr	5Yr
NYSE:WAL	-23.6	-36.2	13.9	-1.6
Peer Average	-28.1	-25.6	8.5	-4.8
S&P 500	26.1	13.0	11.9	11.1

Quantitative Rankings: SB = Strong Buy, H = Hold, SS = Strong Sell
Past performance is not an indication of future performance and should not be relied upon as such
Source: CFRA, S&P Global Market Intelligence (SPGMI)

### **Model Ranking Commentary**

Momentum

- NYSE: WAL's SELL recommendation is based on its score from CFRA's quantitative model for the United States.
- Growth and Quality model sub-categories are the two largest drivers of NYSE: WAL's SELL recommendation.
- Growth includes factors that measure EPS growth and stability and cash flow growth and stability.
- Quality includes factors that consider profitability, cash flow generation, operating efficiency, and earnings quality.
- NYSE: WAL's overall score ranked in the 78th percentile of all stocks in the model universe (1 = best and 100 = worst).

Key Statistics	_
Market Cap (MIn of USD)	5,112
52-Wk Range (USD)	7.460 - 81.170
Value of USD 10K Invested 5 Yrs ago	9,241
Beta vs S&P 500	1.42
Common Shares Outstanding(MIn)	108.60
Average Daily Volume (Mln)	2.356
Insider Ownership(%)	6.22

Dividend Data			Curre	ncy: USD
		5Yr Low		5Yr Hi
Indicated Rate/ Share	1.44			
Yield [%]	3	.9	-0-	7.9
Payout Ratio [%]	17.3	13.6	-0-	23.4

Payment D	letails		
Amount [USD]	Ex Div Date	Record Date	Payment Date
0.36	Aug 10	Aug 11	Aug 25, 2023
0.36	May 11	May 12	May 26, 2023
0.36	Feb 16	Feb 17	Mar 03, 2023
0.36	Nov 17	Nov 18	Dec 02, 2022

Compound Annual Growth Rates										
Revenue - %CAGR	1Yr	3Yr	5Yr							
Company	13.1	35.5	23.4							
Peer Average	28.3	17.7	11.4							
Operating EPS - %CAGR	_									
Company	-9.7	25.0	18.2							
Peer Average	-31.4	23.4	16.0							

5 year P/E Ratio Comparisons [fo	orward 12-month
Current	
NYSE:WAL	5.9
Peer Average	8
S&P 500	19.5
5-Year Average	
NYSE:WAL	8.3
Peer Average	10.5
S&P 500	19.6



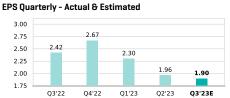


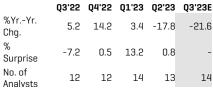
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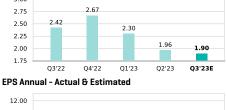


# EPS Per Share and Revenues [Millions USD, except per share]

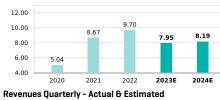
Fiscal year ends Dec 31

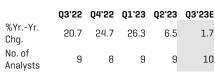


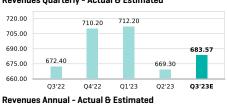


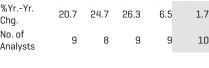


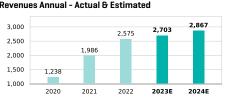












	2020	2021	2022	2023E	2024E
%YrYr. Chg.	10.3	60.5	29.6	5	6.1
No. of Analysts	7	11	9	10	10

Source: S&P Global Market Intelligence

Note: EPS & Revenues in graphs above may represent analyst-adjusted actuals and estimates and therefore may not match numbers in the financial data presentation below.

# **Key Profitability Ratios**

	2018	2019	2020	2021	2022	LTM
% Net Interest Margin	4.7	4.5	4.0	3.4	3.7	3.7
Peer Average	4.0	3.9	3.3	3.0	3.4	3.4
% Efficiency Ratio	43.1	42.7	38.8	42.9	44.9	44.9
Peer Average	50.8	50.3	48.3	51.8	47.7	46.9
% Return on Equity	18.0	17.7	15.8	22.2	21.5	17.9
Peer Average	12.4	11.5	3.0	13.2	13.6	10.5
% Return on Assets	2.0	2.0	1.6	1.9	1.7	1.4
Peer Average	1.5	1.4	0.2	1.4	1.3	1.1

Key Valuation Ratios									
	2018	2019	2020	2021	2022	Current			
Fwrd P/E - High	14.5	12.0	12.3	14.1	12.9	10.2			
Fwrd P/E - Low	11.3	9.2	8.0	10.6	7.7	5.7			
Peer Average	22.8	20.0	23.7	20.3	19.7	19.7			
Prc/Tang Book - High	2.7	2.2	2.0	3.3	3.1	NA			
Prc/Tang Book - Low	2.1	1.6	1.3	2.5	1.8	NA			
Peer Average	1.0	0.8	0.6	0.9	1.1	0.8			
Avg Prc/Revenue	NM	NM	NM	NM	NM	NM			
Peer Average	NM	NM	NM	NM	NM	NM			

Income Statement and Balance Sheet Data (Millions USD, except per share)								
	2015	2016	2017	2018	2019	2020	2021	2022
Net Interest Income	493	657	785	916	1,040	1,167	1,549	2,216
Non Interest Income	29.8	42.9	45.3	43.1	65.1	70.8	404.2	324.6
Net Revenue	522	700	830	959	1,106	1,238	1,953	2,541
Loan Loss Provision	3.2	8.0	17.3	25.0	19.3	123.6	-21.4	68.1
Net Income	194	260	325	436	499	507	899	1,057
Net Int. Income / Net Revenue	94%	94%	95%	96%	94%	94%	79%	87%
Non Int. Income / Net Revenue	6%	6%	5%	4%	6%	6%	21%	13%
Earnings Per Share	2.03	2.50	3.10	4.14	4.84	5.04	8.67	9.70
Dividends Per Share	NA	NA	NA	NA	0.50	1.00	1.20	1.42
Dividend Payout Ratio	Nil	Nil	Nil	Nil	10%	20%	14%	15%
Total Loans	11,132	13,217	15,128	17,749	21,169	27,154	39,346	52,198
Total Assets	14,275	17,201	20,329	23,109	26,822	36,461	55,983	67,734
Non Perform Assets / Total Assets	1.16%	0.83%	0.57%	0.36%	0.37%	0.41%	0.16%	0.14%
Total Deposits	12,031	14,550	16,973	19,177	22,797	31,931	47,612	53,644
Common Equity	1,592	1,892	2,230	2,614	3,017	3,414	4,668	5,061

Note: Data may be restated; before results of discontinued operations/special items. Per share data adjusted for stock dividends as of ex-dividend date.

NA = Not Available. NM = Not Meaningful.

Source: S&P Global Market Intelligence (SPGMI)



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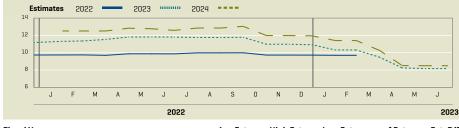
# Peer Group Comparison

Peer Group	Stock Symbol	Stk.Mkt.Cap (MIn USD)	Beta	Recent Stock Price[USD]	52 Week Low/High[USD]	Dividend Yield[%]	Fwrd P/E	P/B Ratio	Ranking <sup>1</sup>	Return On Revenue[%]	Return On Equity[%]	
Western Alliance Bancorporation	NYSE:WAL	5,111.96	1.42	48.22	18.2/80.6	3	6.1	1.1	Sell	36.4	17.9	-
Bank OZK	NasdaqGS:0ZK	4,362.77	1.42	38.56	31.33/48.69	3.7	6.7	1.1	Buy	50.1	14.2	-
Cullen/Frost Bankers, Inc.	NYSE:CFR	5,944.21	1.06	92.7	91.43/158.6	4	9.9	2.3	* * * * *	36.3	21.3	-
East West Bancorp, Inc.	NasdaqGS:EWBC	7,566.55	1.44	53.48	41.39/79.96	3.6	6.3	1.3	* * * * *	53.8	21.0	-
First Horizon Corporation	NYSE:FHN	6,609.44	0.96	11.83	9.67/24.88	5.1	7.9	1.0	* * *	34.9	14.0	-
PacWest Bancorp	NasdaqGS:PACW	930.56	1.47	7.85	3.17/29.58	.5	8.8	0.5	Strong Sell	NM	-45.5	-
Synovus Financial Corp.	NYSE:SNV	4,338.24	1.41	30.03	25.53/44.29	5.1	6.9	1.2	Hold	35.1	18.1	-
Webster Financial Corporation	NYSE:WBS	7,096.52	1.28	41.5	32.24/55.65	3.9	7.1	1.4	* * *	36.7	11.6	-
Zions Bancorporation, National Association	NasdaqGS:ZION	5,173.23	1.14	34.92	19.93/58.97	4.7	7.7	1.4	* * *	28.3	16.8	-

<sup>&</sup>lt;sup>1</sup> Quantitative Rankings: Strong Buy, Buy, Hold, Sell, Strong Sell; Qualitative Rankings(STARS): 5 = Strong Buy, 4 = Buy, 3 = Hold, 2 = Sell, 1 = Strong Sell Rankings are not predictive of future performance. For full definitions of Rankings, see the glossary section of this report.

Note: Peer Group selection is performed using CFRA's proprietary peer ranking system. Peers are selected based on factors such as similarity of analyst coverage, industry, size, and region. The subject company is ranked against a universe of companies (the "Universe") which has been compiled by CFRA and consists of a list of companies with similar characteristics, but may not include all the companies within the same industry and/or that engage in the same line of business. The subject company and some of the companies in the Peer Group may be ranked by two different ranking systems. For the purpose of the overall ranking/recommendation, the subject company is ranked against all the companies in the Universe and not necessarily against the companies listed in the Peer Group.

# **Wall Street Consensus Estimates**



Fiscal Years	Avg Est.	High Est	Low Est.	# of Est.	Est. P/E
2024	8.19	8.91	7.50	15	5.9
2023	7.95	8.33	7.08	15	6.1
2024 vs. 2023	▲3%	<b>▲</b> 7%	▲6%	0%	▼-3%

Source: S&P Global Market Intelligence (SPGMI)

Forecasts are not reliable indicator of future performance.

Note: A company's earnings outlook plays a major part in any investment decision. S&P Global Market Intelligence organizes the earnings estimates of over 2,300 Wall Street analysts, and provides their consensus of earnings over the next two years, as well as how those earnings estimates have changed over time. Note that the information provided in relation to consensus estimates is not intended to predict actual results and should not be taken as a reliable indicator of future performance.



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#### **Business Summary**

Western Alliance Bancorporation operates as the bank holding company for Western Alliance Bank that provides various banking products and related services primarily in Arizona, California, and Nevada. It operates through Commercial and Consumer Related segments. The company offers deposit products, including checking, savings, and money market accounts, as well as fixed-rate and fixed maturity certificates of deposit accounts; demand deposits; and treasury management and residential mortgage products and services. It also offers commercial and industrial loan products, such as working capital lines of credit, loans to technology companies, inventory and accounts receivable lines, mortgage warehouse lines, equipment loans and leases, and other commercial loans; commercial real estate loans, which are secured by multi-family residential properties, professional offices, industrial facilities, retail centers, hotels, and other commercial properties; construction and land development loans for single family and multi-family residential projects, industrial/warehouse properties, of fice buildings, retailcenters, medical office facilities, and residential lot developments; and consumer loans. In addition, the company provides other financial services, such as internet banking, wire transfers, electronic bill payment and presentment, funds transfer and other digital payment offerings, lock box services, courier, and cash management services. Further, it holds certain investment securities, municipal and non-profit loans, and leases; invests primarily in low-income housing tax credits and small business investment corporations; and holds certain real estate loans and related securities. Western Alliance Bancorporation was founded in 1994 and is headquartered in Phoenix, Arizona.

Key Develop	ments	
Jul-19-2023	Earnings Calls	Western Alliance Bancorporation, Q2 2023 Earnings Call, Jul 19, 2023
Jul-18-2023	Announcements of Earnings	Western Alliance Bancorporation Reports Earnings Results for the Second Quarter and Six Months Ended June 30, 2023
Jul-18-2023	Earnings Release Date	Western Alliance Bancorporation to Report Q2, 2023 Results on Jul 18, 2023
Jun-23-2023	Index Constituent Drops	Western Alliance Bancorporation(NYSE:WAL) dropped from Russell 3000 Growth Index
Jun-23-2023	Index Constituent Drops	Western Alliance Bancorporation(NYSE:WAL) dropped from Russell 1000 Growth Index
Jun-23-2023	Index Constituent Drops	Western Alliance Bancorporation(NYSE:WAL) dropped from Russell Midcap Growth Index
Jun-23-2023	Index Constituent Drops	Western Alliance Bancorporation(NYSE:WAL) dropped from Russell 2500 Growth Index
Jun-23-2023	Index Constituent Drops	Western Alliance Bancorporation(NYSE:WAL) dropped from Russell 3000E Growth Index
Jun-23-2023	Index Constituent Drops	Western Alliance Bancorporation(NYSE:WAL) dropped from Russell Small Cap Comp Growth Index
Jun-14-2023	Annual General Meeting	Western Alliance Bancorporation, Annual General Meeting, Jun 14, 2023
May-04-2023	M&A Rumors and Discussions	Western Alliance Denies Report on Exploring Strategic Options
May-04-2023	M&A Rumors and Discussions	Western Alliance Reportedly Explores Options, Including Potential Sale
Apr-19-2023	Earnings Calls	Western Alliance Bancorporation, Q1 2023 Earnings Call, Apr 19, 2023
Apr-18-2023	Announcements of Earnings	Western Alliance Bancorporation Reports Earnings Results for the First Quarter Ended March 31, 2023
Apr-18-2023	Earnings Release Date	Western Alliance Bancorporation to Report Q1, 2023 Results on Apr 18, 2023
Mar-07-2023	Company Conference Presentations	Western Alliance Bancorporation Presents at Future Digital Finance 2023, Mar-07-2023 10:05 AM
Feb-15-2023	Company Conference Presentations	Western Alliance Bancorporation Presents at 30th Annual Winter Financial Services Conference, Feb-15-2023
Jan-25-2023	Earnings Calls	Western Alliance Bancorporation, Q4 2022 Earnings Call, Jan 25, 2023

# **Corporate Information**

**Investor Contact** 

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#### Web Site

www.westernalliancebancorporation.com

#### **Key Officers**

Senior VP & Business Development Officer of

Technology Banking Group of Bridge Bank E. D. Sockol

Senior Vice President of Bridge Bank - New Seattle T. Reimer

Division Chief Executive Officer of Bridge Bank

R. A. Curley

Chief Banking Officer for National Business Lines &

President for Alliance Association Bank

S. R. Curley

Division Chief Executive Officer of Bank of Nevada &

First Independent Bank

R. Cerminaro

Director of Investor Relations & Corporate Development

M Pondelik

Division CEO of Alliance Bank of Arizona

D. H. Garner

Senior VP & Chief Accounting Officer

J. K. Ardrey

CEO, President & Director

K. A. Vecchione

Chief Risk Officer

E. Nachlas

Chief Operating Officer

T. W. Boothe

Division CEO of Torrey Pines Bank

.l. Maguire

Chief Human Resource Officer

B. J. Kennedy

Chief Audit Executive

N. A. Wanat

Chief Information Officer

J. Semonovich

Vice Chairman, Executive VP & CFO

D. M. Gibbons

CEO & Founder of AmeriHome

J. S. Furash

Chief Credit Officer

T. R. Bruckner

Chief Corporate Affairs Officer & Special Counsel

R. S. Theisen

Chief Lenal Officer



# Glossary

# Quantitative Model Overall Recommendation and drivers of the recommendation

CFRAs global quantitative stock reports provide a 5-tier recommendation assigning a Strong Buy, Buy, Hold, Sell, or Strong Sell recommendation based on a series of quantitative inputs from four separate regional models:

- United States
- Canada
- Developed Europe
- Developed Asia excluding Japan

Each of these regional models is based on between 25 and 40 different investment factors (financial ratios), selected from S&P Global Market Intelligence's Alpha Factor Library.

To provide its recommendation, CFRA ranks a universe of common stocks based on 5 measures or model categories: Valuation, Quality, Growth, Street Sentiment, and Price Momentum. In the U.S., a sixth sub-category for Financial Health will also be displayed.

Within these categories, factors are chosen based on their historical predictive strength (alpha) within the region and their correlation with other factors. Each regional model contains two separate sub-models; one that uses factors specific to financial companies and one that focuses on non-financial companies. Due to the large number of banks in the U.S., the U.S. model also has a third sub-model specifically for banks.

Each company within a region is grouped with a universe of stocks and receives a score on each of the five (or six in the U.S.) model categories. Percentile scores are used to compare each company to all other companies in the same universe for each model category. The five (six) model category scores are then weighted and rolled up into a single percentile ranking for that company. Rankings are then assigned investment labels, as follows:

Strong Buy: top 10% by model score

Buy: next 20% Hold: next 40% Sell: next 20%

Strong Sell: bottom 10%

#### **Risk Evaluation**

Risk Evaluation is a relative ranking, which represents an assessment of the risk of investing in a company's stock relative to the risk of investing in other companies' stocks in the same universe. To perform this assessment the following risk categories are evaluated:

Asset/Market Size Risk Financial Leverage Risk Price Volatility Risk Liquidity Risk

Each company's stock is percentile ranked from 1 to 100 against the other companies within the universe on each of the four risk categories mentioned above, with 1 being low risk and 100 being

high risk. The overall risk evaluation represents the combined scores on these Risk categories, calculated as an equal-weighted average of percentile ranks of the 4 risk categories. The highest 40% of companies in each universe receive a high risk ranking, the next 35% receive a moderate risk ranking and, the lowest 25% receive a low risk ranking.

All investments carry some sort of risk and a low risk ranking represents a relative ranking of CFRA's assessment of the risk of investing in a company's stock versus the risk of investing in other companies that are part of that company's universe. Therefore, a low risk ranking should not be interpreted as an absolute risk evaluation, but as a relative measurement of the risk of investing in a company's stock.

#### **Sector Ranking**

CFRA's Investment Policy Committee (IPC) consists of a team of five seasoned investment professionals. It meets weekly to discuss market trends and projections, maintain an S&P 500 12-month forward price target, and make asset allocation/sector recommendations. The IPC establishes over, market, and underweight recommendations on the 10 sectors within the S&P 500. Overweight and underweight recommendations imply that the group expects these sectors to outperform or underperform the S&P 500 during the coming six-to-12 month period, respectively. A "marketweight" recommendation indicates that the sector is expected to be a market performer during this same timeframe. The IPC analyses economic projections, fundamental forecasts, technical considerations, and historical precedent when making such recommendations. Changes in recommendations can be made more frequently than every six-12 months as market conditions evolve. Sector rankings will only be made available for sectors in the S&P 500. If a ranking is not available, the value will be N/A.

# Qualitative STARS Ranking system and definition: \* \* \* \* \* 5-STARS (Strong Buy):

Total return is expected to outperform the total return of a relevant benchmark, by a wide margin over the coming 12 months, with shares rising in price on an absolute basis.

# \* \* \* \* 4-STARS (Buy):

Total return is expected to outperform the total return of a relevant benchmark over the coming 12 months, with shares rising in price on an absolute basis.

# \* \* \* 3-STARS (Hold):

Total return is expected to closely approximate the total return of a relevant benchmark over the coming 12 months, with shares generally rising in price on an absolute basis.

# \* \* 2-STARS (Sell):

Total return is expected to underperform the total return of a relevant benchmark over the coming 12 months, and the share price not anticipated to show a gain.

# **▲ 1-STAR (Strong Sell):**

Total return is expected to underperform the total return of a relevant benchmark by a wide margin over the coming 12 months, with shares falling in price on an absolute basis.

#### S&P Global Market Intelligence's Quality Ranking

[also known as S&P Global Market Intelligence's
Earnings & Dividend Rankings]- Growth and stability of
earnings and dividends are deemed key elements in
establishing S&P Global Market Intelligence's earnings
and dividend rankings for common stocks, which are
designed to capsulize the nature of this record in a
single symbol. It should be noted, however, that the
process also takes into consideration certain
adjustments and modifications deemed desirable in
establishing such rankings. The final score for each
stock is measured against a scoring matrix determined
by analysis of the scores of a large and representative
sample of stocks. The range of scores in the array of
this sample has been aligned with the following ladder
of rankings:

A+ Highest B Below Average A High B- Lower

A- Above Average C Lowest

B+ Average D In Reorganization

NR Not Ranked

# S&P Capital IQ Consensus Estimates

S&P Capital IQ Consensus Estimates represent the aggregation of individual estimates provided by analysts that are covering a public company. A consensus number can be provided as either the mean or the median. The size of the company and the amount of analyst coverage will determine the size of the group from which the Consensus is derived. All of the available analysts' estimates may not necessarily be included in the Consensus. The Consensus will only include analysts' estimates that are based on the same methodology. Consensus Mean: The mathematical average of the detailed estimates after the appropriate exclusions have been applied. Consensus Median: This represents the midpoint of the range of estimates that are ranked from highest to lowest after the appropriate exclusions have been applied. If the number of estimates is even, then the average of the middle two figures is the median.

# Global Industry Classification Standard (GICS)

An industry classification standard, developed by Standard and Poor's in collaboration with Morgan Stanley Capital International [MSCI]. Under the GICS structure, companies are classified in one of 154 sub-industries, which are grouped into 68 industries, 24 industry groups, and 10 economic sectors [consumer discretionary, consumer staples, energy, financials, health care, industrials, information technology, materials, telecom services, and utilities]. This four-tier structure accommodates companies across the world and facilitates sector analysis and investing.



# Glossary

#### **Peer Group**

A subset of a universe that groups companies by specific criteria, such as industry/across industry, lines of business, geography (local, regional, national, and international), size of business (e. g. in terms of revenue), performance criteria, etc.

#### Universe

A set of companies that shares a common feature such as the same market capitalization, industry or index

#### Beta

Beta is a measurement of the sensitivity of a company's stock price to the overall fluctuation of a given benchmark index. The beta values used in this report are levered, unadjusted and derived from a least squares regression analysis using stock and benchmark index returns based on a monthly frequency. Beta is calculated using 60 monthly returns [each as of month end] but if the company's trading history is too short to provide such a sample, fewer than 60 but not fewer than 24 monthly returns are used to run the regression. Beta in this report uses five different benchmark indices to better estimate a stock's volatility against a respective market: the S&P 500 for all US stocks, the S&P/TSX index for all Canadian stocks, the S&P Europe 350 for all European stocks, the S&P/ASX 200 index for all Australian stocks, and the S&P Global 1200 for all other international stocks.

# Free Cash Flow (FCF)

Operating Cash Flow minus Capital Expenditures over the past 12 months

# Funds from Operations (FFO)

Funds from Operations (FFO) represents a REIT's net income, excluding gains or losses from sales of property, plus real estate depreciation.

#### Not Meaningful (NM)

Value is available but it is not meaningful. Examples are certain negative ratios such as P/E, as well as certain ratios that are over +/- 100%

#### Not Available (NA)

Value is not available for this data item

# **Return on Capital**

EBIT / [Total Equity + Total Debt + Deferred Tax Liability Non Current + Deferred Tax Liability Current] Notes: [1] If the denominator is less than or equal to zero then the ratio will be shown as NM

[2] If the return is less than [300%] then the value will be shown as  $\ensuremath{\mathsf{NM}}$ 

# **Return on Equity**

Earnings From Continuing Operations / [[Total Equity[t] + Total Equity [t-1]] / 2] Notes:
[1] If both periods of data [t and t-1] are not available then the ratio will be shown as NM
[2] If the denominator is less than or equal to zero then the ratio will be shown as NM

# Relative Strength vs Index

Relative Strength vs Index measures the stock performance of the company verse all other stocks in the benchmark index each week. Weekly readings are accumulated to form the cumulative Relative Strength line.

#### Relevant benchmarks:

Noiovaine Boiloinna Ro.				
Region	Country	Index		
US	US	S&P 500 Index		
Canada	Canada	S&P/TSX Composite Index		
Europe	All	S&P Europe 350 Index		
Asia ex Japan	Australia	S&P/ASX 200 Index		
Asia ex Japan	All except Australia	S&P Global 1200		

# **Abbreviations used in CFRA Equity Research Reports**

CAGR	Compound Annual Growth Rate
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest Taxes Depreciation and Amortization
EPS	Earnings Per Share
EV	Enterprise Value
FCF	Free Cash Flow
FFO	Funds from Operations
LTD	Long Term Debt
NM	Not Meaningful (see definition above)
P/E	Price/Earnings

Dividends on American Depository Receipts (ADRs) and American Depository Shares (ADSs) are net of taxes (paid in the country of origin).



#### **Disclosures**

Stocks are ranked in accordance with the following ranking methodologies:

### **STARS Stock Reports:**

Qualitative STARS recommendations are determined and assigned by equity analysts. For reports containing STARS recommendations refer to the Glossary section of the report for detailed methodology and the definition of STARS rankings.

#### **Quantitative Stock Reports:**

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