

Recommendation [as of June 04, 2020]: HOLD

Risk Evaluation: MODERATE Price: 9.480 (Jun 04, 2020 close) Trading Currency: USD Country: United States

GICS Sector: Communication Services

GICS Industry: Interactive Home Entertainment

Sector Ranking: overweight

SPGMI's Quality Ranking: C

Business Summary: Glu Mobile Inc. develops, publishes, and markets a portfolio of free-to-play mobile games for the users of smartphones and tablet devices. It publishes titles primarily in four genres, including lifestyle, casual, mid-core, and sports and outdoors. The company's portfolio of compelling games based on its own contd...

Quantitative Model Drivers [as of June 04, 2020] Recommendation: HOLD Negative Valuation Neutral Quality Neutral Growth Negative Financial Health Positive Street Sentiment Neutra Price Momentum



Risk Evaluation :	MODERATE
Asset/Market Size Risk	High
Financial Leverage Risk	Moderate
Price Volatility Risk	Moderate
Liquidity Risk	Low



Total Return[%CAGR]	YTD	1Yr	3Yr	5Yr
NasdaqGS:GLUU	184.1	23.8	52.0	7.2
Peer Average	25.5	18.7	8.0	8.6
S&P 500	-5.8	13.6	10.8	10.5

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

- NasdaqGS: GLUU's HOLD recommendation is based on its score from CFRA's quantitative model for the United States.
- Quality and Valuation model sub-categories are the largest positive and negative drivers, respectively, of the HOLD recommendation.
- Quality includes factors that consider profitability, cash flow generation, operating efficiency, and earnings quality.
- Valuation includes factors such as price to earnings, price to EBITDA, and price to cash flow.
- NasdaqGS: GLUU's overall score ranked in the 67th percentile of all stocks in the model universe (1 = best and 100 = worst).

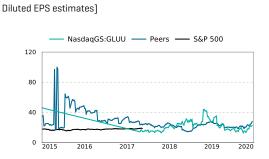
Key Statistics	
Market Cap (MIn of USD)	1,579
52-Wk Range (USD)	3.980 - 10.720
Value of - 10K Invested 5 Yrs ago	14,128
Beta vs S&P 500	0.86
Common Shares Outstanding(MIn)	166.58
Average Daily Volume (Mln)	4.109
Insider Ownership(%)	NA

Dividend Data			Currency: USD
		5Yr Low	5Yr Hi
Indicated Rate/ Share			
Yield [%]	Nil		
Payout Ratio [%]	NM	NM _	NM

Payment Details							
-No Dividend Data Available							

Compound Annual Growth Rates										
Revenue - %CAGR	1Yr	3Yr	5Yr							
Company	11.0	27.7	11.3							
Peer Average	13.2	12.4	10.7							
Operating EPS - %CAGR	_									
Company	-98.8	-91.7	-7.3							
Peer Average	49.0	32.8	7.6							

5 year P/E Ratio Comparisons [forward 12-month						
Current						
NasdaqGS:GLUU	21.6					
Peer Average	20.6					
S&P 500	23.9					
5-Year Average						
NasdaqGS:GLUU	22.1					
Peer Average	20.8					
S&P 500	17.5					





Recommendation [as of June 04, 2020]: HOLD

Q2'19 Q3'19 Q4'19 Q1'20 Q2'20E

16.1

164.3

9

9

8.8

8

2019 2020E 2021E

455.6

9

10 -97.7 37

9

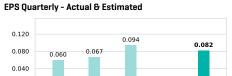
9

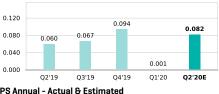
-7.7

20 112.9

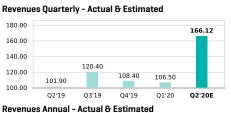
EPS Per Share and Revenues [Millions USD, except per share]

Fiscal year ends Dec 31









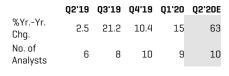


%Yr.-Yr. Chg. % Surprise No. of Analysts

849.1

5





7

	2017	2018	2019	2020E	2021
%YrYr. Chg.	59.7	20	10.1	25.1	6.4
No. of Analysts	5	7	11	11	11

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

	2015	2016	2017	2018	2019	LTM
% Operating Margin	-2.1	-39.7	-29.6	-2.6	1.8	-0.6
Peer Average	8.2	15.8	16.3	17.0	14.0	17.8
% Net Margin	-2.9	-43.6	-34.0	-3.6	2.2	-0.0
Peer Average	9.5	17.6	17.7	18.2	19.2	22.8
% Return on Capital	-1.4	-18.5	-27.5	-3.6	2.1	-0.6
Peer Average	9.8	11.9	8.2	11.6	9.4	10.1
% Cash Flow to Sales	-4.6	-9.9	-9.8	8.8	8.6	NA
Peer Average	17.5	83.5	-31.8	49.0	5.2	NA

Key Valuation Ratios								
,			2017	2018	2019	Current		
Fwrd P/E - High	61.4	NM	NM	28.6	42.7	32.2		
Fwrd P/E - Low	41.3	NM	NM	19.4	27.2	21.6		
Peer Average	NM	56.2	58.6	56.6	NM	54.2		
Avg EV/EBITDA	28.2	NA	NA	30.5	18.1	24.2		
Peer Average	NM	NM	NM	NM	44.3	37.3		
Avg Price to Sales	NM	NM	NM	NM	NM	NM		
Peer Average	NM	0.1	0.1	0.1	NM	NM		
Avg Price to Book	2.0	1.4	2.6	4.6	5.8	4.6		
Peer Average	4.2	3.9	4.5	4.6	3.7	3.5		

Income Statement, Cash Flow and	Balance Sheet I	Data (Millions USD	l, except per share				Fiscal Year End	ding: Dec. 31 .
	2012	2013	2014	2015	2016	2017	2018	2019
Revenue	108	106	223	250	201	287	367	411
Operating Income	-15.4	-21.1	7.1	-5.2	-79.7	-84.9	-9.5	7.2
Net Income	-20.5	-19.9	8.1	-7.2	-87.4	-97.6	-13.2	8.9
Operating Cash Flow	-6.7	-9.6	30.6	-11.5	-19.8	-28.2	32.3	35.2
Capital Expenditures	2.01	2.72	3.29	2.75	3.07	11.34	3.36	5.28
Earnings Per Share	-0.32	-0.28	0.08	-0.06	-0.66	-0.72	-0.09	0.06
Dividends Per Share	NA	NA	NA	NA	NA	NA	NA	NA
Dividend Payout Ratio	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Free Cash Flow Per Share	-0.21	-0.18	0.28	-0.14	-0.19	-0.29	0.20	0.19
Cash and Short Term Investments	22.3	28.5	70.9	180.5	103.1	63.8	97.8	127.1
Long Term Debt	NA	NA	NA	NA	NA	NA	NA	NA
Total Debt	Nil	Nil	Nil	Nil	Nil	Nil	Nil	40.9
Common Equity	39	47	172	306	233	154	177	203

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)





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 ¹	Return On Revenue[%]	Return On Equity[%]	LTD to Cap[%]
Glu Mobile Inc.	NasdaqGS:GLUU	1,579.22	0.86	9.48	4.19/10.28	Nil	28.4	6.8	Hold	NM	NM	14.6
COLOPL, Inc.	TSE:3668	1,224.13	NA	9.58	5.4/16.36	Nil	NA	0.0	NA	15.4	9.1	_
Electronic Arts Inc.	NasdaqGS:EA	33,828.42	0.91	117.18	86.94/122.88	Nil	23.4	4.5	* * * * *	54.9	47.5	6.4
Koei Tecmo Holdings Co., Ltd	TSE:3635	3,711.02	NA	29.22	17.91/29.4	Nil	NA	0.0	NA	35.9	12.7	-
SciPlay Corporation	NasdaqGS:SCPL	317.40	NA	13.97	6.34/14.71	Nil	13.2	5.4	Hold	23.8	21.1	1.4
Take-Two Interactive Software, Inc.	NasdaqGS:TTWO	13,828.94	0.57	127.59	100.15/146.84	Nil	33.6	5.4	* * * *	13.1	17.7	5.6
Zynga Inc.	NasdaqGS:ZNGA	8,655.85	0.34	9.05	5.55/9.66	Nil	29.3	4.7	Hold	4.6	3.7	27.3

¹ 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 Groun.

Wall Street Consensus Estimates



Fiscal Years	Avg Est.	High Est	Low Est.	# of Est.	Est. P/E
2021	0.44	0.71	0.27	9	21.6
2020	0.33	0.37	0.29	9	28.4
2021 vs. 2020	▲33%	▲ 92%	▼ -7%	0%	▼ -24%

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.



Recommendation [as of June 04, 2020]: HOLD

Business Summary

Glu Mobile Inc. develops, publishes, and markets a portfolio of free-to-play mobile games for the users of smartphones and tablet devices. It publishes titles primarily in four genres, including lifestyle, casual, mid-core, and sports and outdoors. The company's portfolio of compelling games based on its own intellectual property, such as Cooking Dash, Covet Fashion, Deer Hunter, Design Home, Diner DASH Adventures, and QuizUp, as well as games based on or significantly incorporating third party licensed brands, including Kim Kardashian: Hollywood, MLB Tap Sports Baseball, and Restaurant Dash with Gordon Ramsay, as well as Disney Sorcerer's Arena. It markets, sells, and distributes its games primarily through direct-to-consumer digital storefronts, such as the Apple App Store, Google Play Store, and others. The company was formerly known as Sorrent, Inc. and changed its name to Glu Mobile Inc. in May 2005. Glu Mobile Inc. was founded in 2001 and is headquartered in San Francisco, California.

Key Develop	ments	
Jun-18-2020	Annual General Meeting	Glu Mobile Inc., Annual General Meeting, Jun 18, 2020
Jun-04-2020	Follow-on Equity Offerings	Glu Mobile Inc. has completed a Follow-on Equity Offering in the amount of \$138.75 million.
Jun-02-2020	Follow-on Equity Offerings	Glu Mobile Inc. has filed a Follow-on Equity Offering in the amount of \$100 million.
May-29-2020	Company Conference Presentations	Glu Mobile Inc. Presents at Cowenâs 48th Annual 2020 Virtual Technology, Media & Telecom Conference, May-29-2020 01:10 PM
May-19-2020	Company Conference Presentations	Glu Mobile Inc. Presents at 15th Annual Needham Virtual Technology & Media Conference, May-19-2020 02:30 PM
May-07-2020	Announcements of Earnings	Glu Mobile Inc. Reports Earnings Results for the First Quarter Ended March 31, 2020
May-07-2020	Earnings Calls	Glu Mobile Inc., Q1 2020 Earnings Call, May 07, 2020
May-07-2020	Earnings Release Date	Glu Mobile Inc. to Report Q1, 2020 Results on May 07, 2020
Mar-16-2020	Company Conference Presentations	Glu Mobile Inc. Presents at 32nd Annual ROTH Conference, Mar-15-2020 through Mar-17-2020
Mar-10-2020	Company Conference Presentations	Glu Mobile Inc. Presents at SunTrust Robinson Humphrey Technology, Internet & Services Conference, Mar-10-2020
Mar-02-2020	Company Conference Presentations	Glu Mobile Inc. Presents at Morgan Stanley Technology, Media & Telecom Conference, Mar-02-2020 12:45 PM
Feb-05-2020	Earnings Calls	Glu Mobile Inc., Q4 2019 Earnings Call, Feb 05, 2020
Feb-05-2020	Announcements of Earnings	Glu Mobile Inc. Reports Earnings Results for the Fourth Quarter Ended December 31, 2019
Feb-05-2020	Earnings Release Date	Glu Mobile Inc. to Report Q4, 2019 Results on Feb 05, 2020
Dec-10-2019	Company Conference Presentations	Glu Mobile Inc. Presents at UBS Global Technology, Media & Telecom Conference, Dec-10-2019 02:00 PM
Dec-09-2019	Company Conference Presentations	Glu Mobile Inc. Presents at Raymond James Annual Technology Investors Conference, Dec-09-2019 01:50 PM
Nov-13-2019	Company Conference Presentations	Glu Mobile Inc. Presents at Stephens Nashville Investment Conference, Nov-13-2019 04:00 PM
Nov-06-2019	Earnings Release Date	Glu Mobile Inc. to Report Q3, 2019 Results on Nov 06, 2019

Corporate Information

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Key Officers

Executive Chairman

N. M. de Masi

Chief Technology Officer

T. Wilson

President, CEO & Director

N. Earl

Senior Vice President of Studios

M. Olsen

Senior Vice President of Business & Corporate

Development

C. Akhavan

Senior Vice President of Revenue

B. A. Hughes

Executive VP, COO & CFO

E. R. Ludwig

VP, General Counsel & Corporate Secretary

S. J. Leichtner

VP of Accounting & Principal Accounting Officer

G. Lee

Senior Vice President of Revenue Platform

C. Elberti

Vice President of Finance & Investor Relations

H. Singh

Board Members

A. Mather, B. Feder, B. T. Smith, D. K. Anderson, E. J. Ball, G. Brandeau, G. Toledano, H. M. Nada, N. Earl, N. M. de Masi

State of Incorporation

Delaware

Employees

715



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:

Kolovani Bollomila Ks.				
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).



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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.

Ouantitative Stock Reports:

Quantitative recommendations are determined by ranking 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. 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. For reports containing quantitative recommendations refer to the Glossary section of the report for detailed methodology and the definition of Quantitative rankings.

STARS Stock Reports and Quantitative Stock Reports:

The methodologies used in STARS Stock Reports and Quantitative Stock Reports [collectively, the "Research Reports"] reflect different criteria, assumptions and analytical methods and may have differing recommendations. The methodologies and data used to generate the different types of Research Reports are believed by the author and distributor reasonable and appropriate. Generally, CFRA does not generate reports with different ranking methodologies for the same issuer. However, in the event that different methodologies or data are used on the analysis of an issuer, the methodologies may lead to different views or recommendations on the issuer, which may at times result in contradicting assessments of an issuer. CFRA reserves the right to alter, replace or vary models, methodologies or assumptions from time to time and without notice to clients.

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