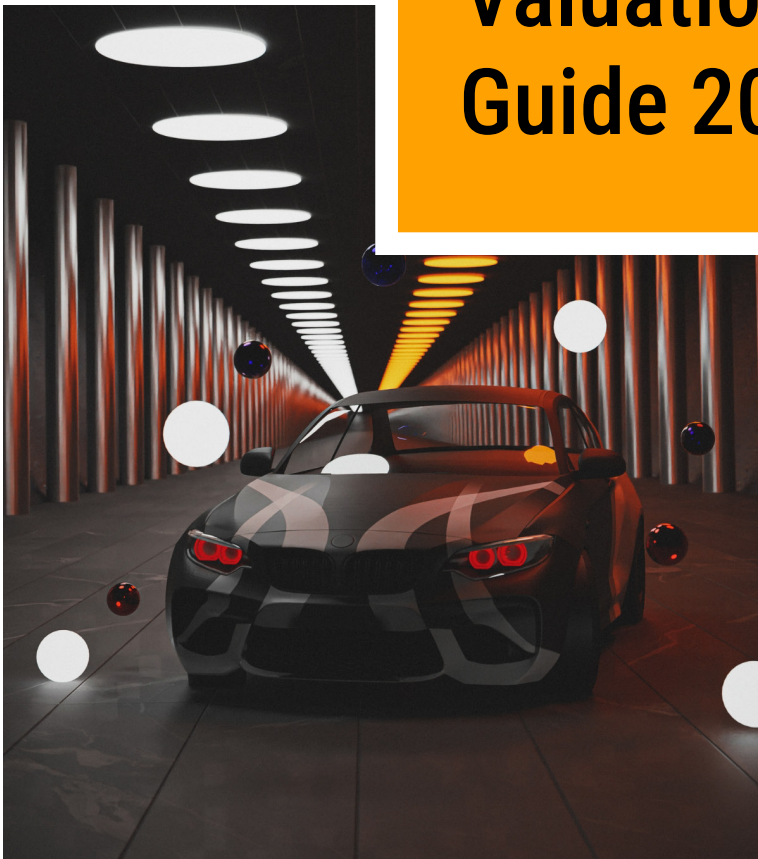




KNAV
PARTNERS BEYOND BOUNDARIES

U.S. Valuation Guide 2024



PREFACE

Dear Reader,

We are thrilled to introduce the U.S. Valuation Guide, a comprehensive resource crafted to provide invaluable insights into the world of valuations across a spectrum of industries in the United States. Understanding the intricacies of valuation is paramount for investors, analysts, and decision-makers alike, whether it involves assessing the potential of a startup, evaluating the performance of a mature corporation, or estimating the fair value of an investment. This guide delves into key ratios, margins, multiples, and other essential valuation metrics specific to the U.S. market.

A crucial aspect of the valuation process is having access to sufficient data to make informed judgments on comparability and risk. One of the central themes of this guide is the examination of metrics that play a pivotal role in valuation analysis. These metrics not only serve as indispensable tools in assessing a company's financial health, identifying growth potential, and benchmarking against industry peers, but they also provide a contextual understanding of growth rates, profitability, and risk factors, helping to gauge the company's position in relation to its peers within the industry and its broader market landscape.

Industry-specific risk metrics assist in validating the reasonableness of a company's financial forecasts, and risk assessments; any significant deviations from industry norms prompt further analysis and validation. Armed with this knowledge, the reader will be better equipped to interpret financial statements and make informed decisions based on quantitative evidence. Moreover referencing the industry metrics enhances the credibility of the valuation report, demonstrating the consideration of the relevant industry-specific factors in the assessment. This aspect makes the reports more defensible under scrutiny or in litigation.

In the following pages, we present a comprehensive array of important metrics that encompass a wide range of financial aspects, including return ratios, debt ratios, activity ratios, multiples, liquidity ratios, capital expenditure and depreciation ratios, working capital ratios, and betas. Covering 29 major industries, the data reflects a diverse set of constituents from both the NASDAQ and NYSE.

To ensure the utmost reliability, we have adjusted for outliers to avoid skewing the analysis with extreme values. By meticulously curating the information, we aim to provide you with a robust and insightful resource, enabling a more informed and confident approach to valuation industry multiples.

Furthermore, we acknowledge that valuation entails a detailed and intricate process, and there is no one-size-fits all approach. Each company and industry present unique challenges and intricacies, necessitating tailored methodologies to ensure accurate and reliable valuations. While our guide provides valuable industry metrics, it is crucial to exercise caution when using them. These metrics serve as reference points rather than fixed assumptions and should be employed alongside the valuer's judgment and expertise, supported by consideration of qualitative aspects.

Finally, we wholeheartedly attribute the creation of this Valuation Guide to the dedication and talent of our exceptional team members. Their invaluable contributions, comprising their expertise, experience, and passion, have been instrumental in crafting a resource that we proudly present today. To our team, we extend our deepest gratitude for their commitment and collaborative spirit, which has shaped this guide into a valuable companion for professionals at all stages of their careers.

We hope that this Guide for Valuation serves as your invaluable companion, offering the necessary insights and tools for navigating the complexities of valuation and may you embark on your valuation journeys with renewed confidence, uncovering hidden value and making informed decisions that propel you towards success.



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■ ABOUT THE GUIDE

The Guide offers comprehensive industry-level estimates for cost of equity, debt, and WACC, alongside performance statistics, valuation multiples, levered and unlevered betas, capital structure, and additional statistics for approximately 29 U.S. industries. Our commitment to transparency is evident in the detailed explanation of the assumptions used to compile this guide, thoroughly discussed in this section.

All industry analyses and statistics presented in the Guide are calculated with the most recent monthly or fiscal year data as of December 31, 2023. The companies included in these analyses are publicly-held U.S. corporations listed on either the NYSE or NASDAQ.

After nearly five years of utilizing and refining Valuation Guides for our internal benchmarking and valuation purposes, we are delighted to share the 2024 U.S. Valuation Guide with all our readers, and we hope you find this useful! We intend to make this an annual publication, with adding more data points and qualitative analysis in future versions. Your feedback, reviews, opinions, and critiques are invaluable to us in making this publication more beneficial for you. Please feel free to reach out to us at markets@knavcpa.com for any questions or comments.

■ OUR PROCESS

The section below lists the process followed to select our companies and industries:

Step 1: Our team evaluated the top 750 companies listed on the NYSE and NASDAQ based on the Market capitalization as of December 31, 2023 and having a trading history of at least 1 year. We limited the dataset to avoid the inclusion of smaller and non-operational companies, which could compromise data integrity. After eliminating companies due to data deficiencies or irregularities, the final dataset comprised 424 companies.

Step 2: These companies were then classified based on over 110 Industries using the industry classification based on the codes provided by Global Industry Classification Standard ("GICS"). GICS is a four-tiered, hierarchical industry classification system. It consists of 11 "sectors" (2-digit GICS), 24 "industry groups" (4-digit GICS), 69 "industries" (6-digit GICS), and 158 "sub-industries" (8-digit GICS).

Step 3: Analysed the number of companies and comparability of companies in each industry, and our expertise on the industries under consideration, a list of 29 industries were shortlisted, which were then used for compiling this publication.

Step 4: Each industry was carefully evaluated for any data inconsistencies and irregularities. For the final list of companies, we have provided over 30 financial ratios/ margins/ multiples as of December 31, 2023 grouped by GICS industry classification. For each parameter we have provided the average, median, the lower quartile (25th percentile) and the higher quartile (75th percentile)

Step 5: All financial data has been sourced from S&P Capital IQ Pro and the subject company's annual reports.

■ OUR DATA ANALYSIS

There are two ways of interpreting industry data, one is to look at all companies in the particular industry and look at the various statistical data points or, second is to adjust the data for outliers to ensure the selected companies represents a close set of statistical data points. This Guide offers both perspectives. Users can choose the dataset is most appropriate for their needs.

■ OUTLIER ANALYSIS

OUTLIER ANALYSIS OF RATIOS/MULTIPLES PRESENTED.

Outliers can distort the comparability of multiples between companies and industries. Removing them helps ensure a fair compensation and better benchmarking. To maintain fair comparisons and better benchmarking, we have eliminated subjectivity in outlier selection, relying on statistical methods. We used the confidence interval concept to exclude data points beyond the 99th percentile. A confidence interval for a variable represents a range of values within which a variable can be estimated to fit with a pre-defined probability. For example, a 99.0% confidence interval implies a range of values that you can be 99.0% certain contains the population mean. Thus, any variables lying beyond the 99.0% confidence interval range have been disregarded as outliers. A 99.0% confidence interval implies covering most of the data by excluding extremely diverse outliers from the data set. Based on the concept of confidence interval, the following steps were then followed to isolate the relevant data:

The confidence interval for the respective population of industry multiples/ratios has been computed as follows:

Step 1 - The confidence interval has been computed by applying a confidence limit of 99.0%.

Step 2 - By adding and subtracting the confidence interval to the mean, an upper interval and lower interval has been computed for the respective industry multiples/ratios. However, the lower interval has been ensured to be greater than 0.

Step 3 - Only multiples/ratios falling within the respective intervals have been considered for the computation of the average, median, 25th and 75th percentile, high and low industry multiples/ratios presented.

Our data points are derived from statistical measures of individual data points of each company in an industry. For instance, the mean EBITDA margin of the specific industry is computed based on the average of EBITDA margins of all companies in that industry. The formulae used for computation of the data sets have been listed down in Section 4: Interpretation and computation of ratios and multiples along with a small write up on the significance of each formula. Additionally, a list of companies for each industry is available on our website ([here](#)), though individual company data points are excluded to comply with our agreement with S&P Capital IQ Pro.

Alongside industry-specific margins, multiples, and other financial parameters, we also estimate the cost of equity and the weighted average cost of capital (WACC) for companies in these industries. The cost of equity is calculated using the Capital Asset Pricing Model ("CAPM") and the WACC is computed using the cost of debt and debt to capital ratio computed in our data set. Although this may not be an entirely precise return expectation, it serves as a useful benchmark for users to evaluate the fairness of their own WACC estimates. This Guide embodies KNAV's decades of valuation experience globally and our extensive analysis of various data points.

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Application Software

GICS : 45103010

Industry includes companies engaged in developing and producing software designed for specialized applications for the business or consumer market. It includes enterprise and technical software as well as cloud-based software.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	5.3%	3.5%	4.9%	7.2%	6.7%
Median	6.0%	3.0%	4.4%	6.2%	6.2%
25th percentile	2.3%	2.1%	2.7%	4.6%	4.9%
75th percentile	7.8%	5.0%	7.7%	9.5%	8.5%

Debt Ratios

Activity ratios

	Days of sales	Days of payables	Revenue growth
Average	79	42	26.5%
Median	80	41	26.8%
25th percentile	71	37	22.4%
75th percentile	86	48	29.9%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	11.8x	78.9x	10.8x	11.8x	42.5x
Median	11.7x	65.8x	9.5x	11.2x	42.5x
25th percentile	10.2x	50.0x	4.6x	10.3x	35.2x
75th percentile	13.4x	82.1x	18.0x	13.4x	48.7x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	76.6%	10.7%	5.9%	1.7x	1.5x
Median	77.8%	9.3%	5.9%	1.7x	1.5x
25th percentile	73.3%	4.7%	2.3%	1.5x	1.3x
75th percentile	79.4%	16.8%	9.4%	1.8x	1.7x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	1.4%	5.1%	312.7%	35.4%	-18.5%
Median	1.4%	4.8%	199.6%	34.3%	-18.1%
25th percentile	1.1%	3.3%	108.6%	21.0%	-19.0%
75th percentile	1.8%	6.0%	462.3%	47.7%	-16.4%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.44	1.43	1.29
Median	1.42	1.40	1.28
25th percentile	1.36	1.37	1.24
75th percentile	1.56	1.48	1.31

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.29	13.4%
Median	4.2%	7.2%	1.28	13.4%
25th percentile	4.2%	7.2%	1.24	13.1%
75th percentile	4.2%	7.2%	1.34	13.6%

System Software

GICS : 45103020

Industry includes companies engaged in developing and producing systems and database management software.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	35.1%	2.9%	14.5%	1.9%	1.8%
Median	34.0%	2.9%	12.6%	1.4%	1.4%
25th percentile	28.8%	2.5%	8.3%	0.4%	0.4%
75th percentile	40.3%	3.3%	20.6%	2.6%	2.5%

Debt Ratios

Activity ratios

	Days of sales	Days of payables	Revenue growth
Average	85	38	36.2%
Median	81	36	26.9%
25th percentile	78	29	26.5%
75th percentile	91	43	46.6%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	13.4x	61.5x	19.3x	12.7x	21.7x
Median	13.2x	38.7x	11.6x	12.4x	18.9x
25th percentile	12.6x	27.3x	7.2x	11.5x	17.4x
75th percentile	13.4x	61.5x	24.5x	13.4x	26.1x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	79.6%	17.5%	16.1%	1.5x	1.3x
Median	79.0%	16.2%	18.2%	1.5x	1.4x
25th percentile	77.9%	13.0%	14.4%	1.2x	1.0x
75th percentile	81.6%	21.4%	19.9%	1.8x	1.6x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	3.5%	2.5%	129.9%	82.9%	-38.1%
Median	2.2%	2.4%	81.0%	87.5%	-42.2%
25th percentile	1.8%	2.0%	52.6%	73.2%	-43.5%
75th percentile	4.9%	2.8%	138.6%	101.3%	-30.7%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.42	1.28	1.14
Median	1.35	1.26	1.18
25th percentile	1.24	1.08	1.08
75th percentile	1.65	1.57	1.21

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.14	12.4%
Median	4.2%	7.2%	1.18	12.7%
25th percentile	4.2%	7.2%	1.08	11.9%
75th percentile	4.2%	7.2%	1.21	12.8%

IT Consulting and Other Services

GICS : 45102010

Industry includes companies providing information technology and systems integration services, information technology consulting and information management services.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	19.5%	9.9%	15.7%	9.4%	7.5%
Median	15.4%	10.4%	12.7%	3.5%	3.4%
25th percentile	11.3%	7.5%	10.8%	2.1%	2.0%
75th percentile	22.7%	11.5%	19.4%	8.3%	7.6%

Debt Ratios

Activity ratios

	Days of sales	Days of payables	Revenue growth
Average	74	20	14.1%
Median	71	14	12.9%
25th percentile	69	11	5.3%
75th percentile	81	23	17.0%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	3.5x	33.6x	11.8x	3.5x	18.1x
Median	3.4x	32.2x	5.6x	3.2x	17.5x
25th percentile	2.3x	19.6x	3.9x	2.6x	11.6x
75th percentile	4.2x	40.8x	7.5x	4.1x	23.9x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	41.8%	19.9%	10.9%	1.9x	1.7x
Median	35.3%	19.3%	11.0%	1.4x	1.3x
25th percentile	33.4%	18.0%	9.8%	1.1x	1.0x
75th percentile	45.9%	21.6%	11.6%	1.8x	1.7x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	1.6%	3.8%	251.7%	17.8%	-3.2%
Median	1.7%	2.8%	203.3%	12.2%	-3.0%
25th percentile	1.2%	2.5%	154.4%	9.7%	-8.2%
75th percentile	2.1%	5.2%	323.8%	22.0%	7.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.79	0.82	0.88
Median	0.71	0.60	0.81
25th percentile	0.53	0.51	0.65
75th percentile	0.99	1.07	1.07

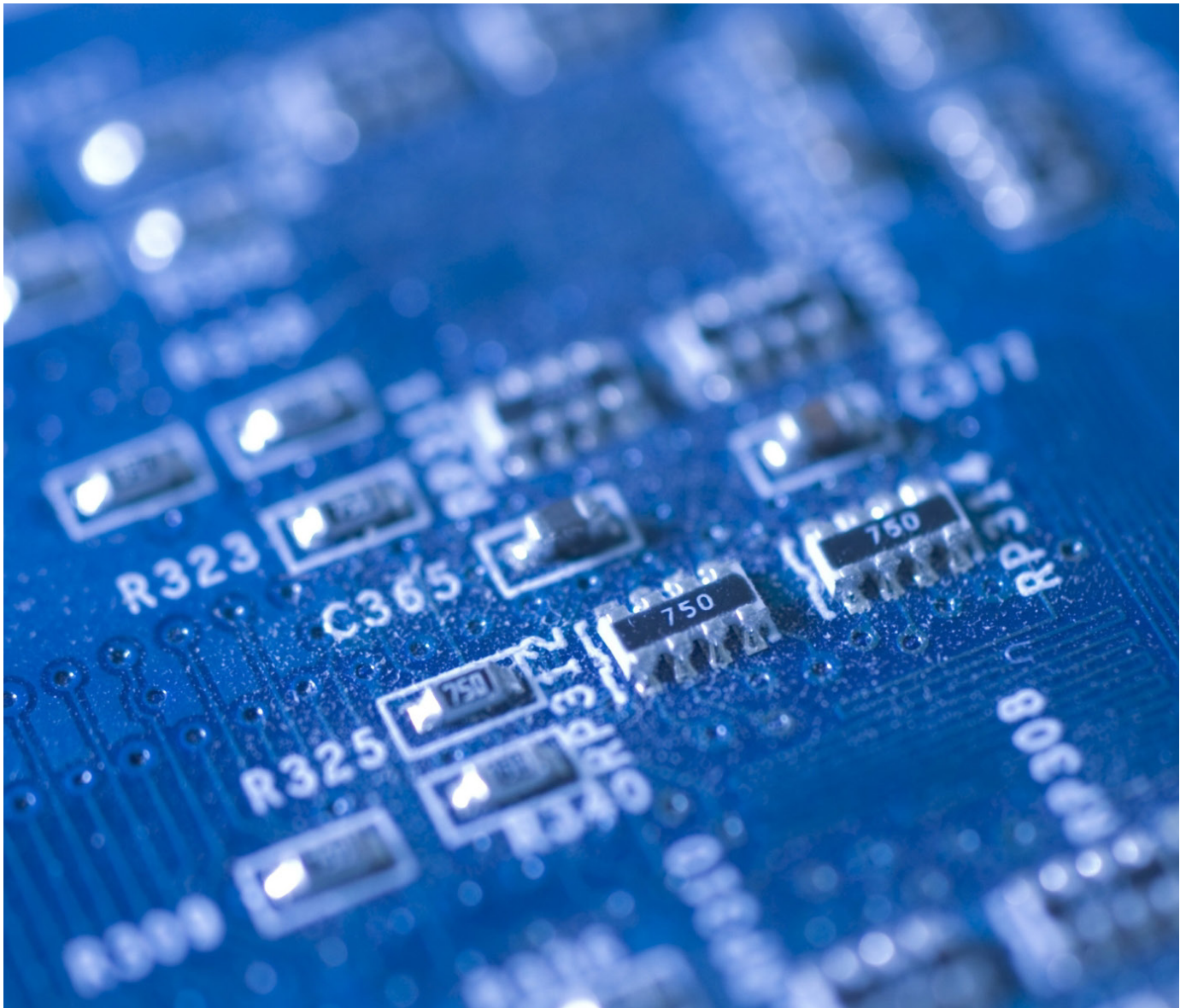
Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.88	10.5%
Median	4.2%	7.2%	0.81	10.0%
25th percentile	4.2%	7.2%	0.65	8.9%
75th percentile	4.2%	7.2%	1.07	11.9%

■ Semiconductors and Semiconductor Equipment

GICS : 453010

Semiconductors industry includes manufacturers of semiconductor equipment, including manufacturers of the raw material, equipment used in the solar power industry, manufacturers of solar modules and cells.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	27.4%	10.4%	13.7%	8.1%	7.4%
Median	27.1%	10.3%	14.3%	7.7%	7.1%
25th percentile	17.7%	9.8%	11.4%	7.6%	7.0%
75th percentile	36.3%	11.2%	15.4%	8.7%	8.0%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	55	150	44	16.1%
Median	54	152	43	15.5%
25th percentile	51	129	41	14.5%
75th percentile	58	161	45	17.0%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	7.6x	31.7x	8.0x	7.5x	25.3x
Median	7.5x	23.9x	7.0x	7.1x	24.1x
25th percentile	5.9x	22.1x	5.5x	5.9x	18.3x
75th percentile	8.8x	37.0x	8.9x	8.7x	32.3x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	50.5%	33.3%	20.2%	3.3x	2.1x
Median	50.7%	34.2%	20.4%	3.3x	2.0x
25th percentile	46.3%	31.1%	16.6%	2.8x	1.7x
75th percentile	56.0%	35.5%	23.9%	3.7x	2.5x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	9.1%	8.7%	144.3%	54.6%	21.2%
Median	6.8%	8.5%	128.0%	52.9%	21.5%
25th percentile	6.0%	7.5%	96.1%	49.1%	19.2%
75th percentile	10.4%	9.8%	201.4%	56.4%	25.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.84	1.61	1.48
Median	1.83	1.64	1.46
25th percentile	1.80	1.49	1.44
75th percentile	1.85	1.70	1.53

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.48	14.8%
Median	4.2%	7.2%	1.46	14.7%
25th percentile	4.2%	7.2%	1.44	14.5%
75th percentile	4.2%	7.2%	1.53	15.2%

Technology Hardware, Storage and Peripherals

GICS : 452020

Industry includes manufacturers of cellular phones, personal computers, servers, electronic computer components, peripherals, data storage components, motherboards, audio and video cards, monitors, keyboards, printers, and other peripherals.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	27.5%	7.1%	16.1%	25.6%	20.1%
Median	19.1%	8.5%	16.6%	23.6%	19.1%
25th percentile	9.2%	4.7%	12.9%	20.6%	17.1%
75th percentile	43.2%	9.0%	20.1%	32.7%	24.6%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	55	68	81	7.5%
Median	52	63	76	6.0%
25th percentile	50	55	64	4.4%
75th percentile	63	88	94	8.7%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	1.8x	18.8x	7.1x	2.4x	12.1x
Median	1.8x	17.5x	6.0x	2.2x	10.2x
25th percentile	1.4x	13.1x	1.6x	1.8x	7.0x
75th percentile	2.4x	23.4x	12.0x	2.9x	17.3x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	25.4%	10.4%	4.5%	1.2x	0.9x
Median	21.6%	9.6%	4.1%	1.2x	0.8x
25th percentile	20.8%	8.7%	2.6%	1.0x	0.7x
75th percentile	25.5%	10.4%	6.3%	1.4x	1.1x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	3.3%	2.8%	104.0%	12.5%	7.0%
Median	3.3%	3.0%	96.8%	7.7%	7.0%
25th percentile	2.9%	2.4%	93.0%	5.0%	6.5%
75th percentile	3.7%	3.3%	104.0%	19.8%	7.6%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.17	1.15	1.15
Median	1.05	1.15	1.15
25th percentile	0.98	1.08	1.11
75th percentile	1.33	1.23	1.17

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.15	12.5%
Median	4.2%	7.2%	1.15	12.4%
25th percentile	4.2%	7.2%	1.11	12.1%
75th percentile	4.2%	7.2%	1.17	12.6%

■ Biotechnology and Pharmaceuticals

GICS : 352010, 352020

The biotechnology industry includes companies primarily engaged in the research, development, manufacturing and/or marketing of products based on genetic analysis and genetic engineering. It includes companies specializing in protein-based therapeutics to treat human diseases.

Pharmaceutical sector includes companies engaged in the research, development or production of pharmaceuticals and veterinary drugs.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	14.2%	4.3%	5.7%	19.3%	15.2%
Median	14.5%	4.4%	5.3%	17.3%	16.1%
25th percentile	4.3%	2.2%	2.8%	10.4%	12.5%
75th percentile	19.8%	6.4%	8.6%	23.0%	17.3%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	79	123	54	14.8%
Median	76	141	50	12.6%
25th percentile	66	94	43	11.3%
75th percentile	88	146	64	16.6%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	5.9x	39.4x	4.2x	6.1x	12.9x
Median	5.4x	29.0x	3.6x	5.9x	14.0x
25th percentile	3.8x	22.9x	1.8x	3.7x	7.1x
75th percentile	7.2x	51.5x	5.7x	7.2x	17.4x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	62.7%	35.1%	20.5%	3.2x	2.8x
Median	69.2%	35.6%	17.8%	3.4x	3.0x
25th percentile	49.1%	25.6%	10.4%	2.5x	2.0x
75th percentile	76.5%	44.0%	28.8%	3.8x	3.5x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	6.0%	7.4%	151.7%	63.5%	6.8%
Median	6.1%	7.3%	152.3%	47.6%	6.8%
25th percentile	5.2%	5.3%	105.1%	25.7%	4.1%
75th percentile	6.6%	9.1%	169.4%	104.4%	8.2%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.62	0.69	0.72
Median	0.64	0.66	0.70
25th percentile	0.57	0.58	0.64
75th percentile	0.67	0.80	0.81

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.72	9.4%
Median	4.2%	7.2%	0.70	9.2%
25th percentile	4.2%	7.2%	0.64	8.8%
75th percentile	4.2%	7.2%	0.81	10.0%

Health Care Equipment and supplies

GICS : 351010

Industry includes manufacturers of health care equipment and devices. It includes medical instruments, drug delivery systems, cardiovascular & orthopaedic devices, and diagnostic equipment, health care supplies and medical products, eye care products, hospital supplies, and safety needle & syringe devices.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	15.0%	7.3%	10.2%	14.1%	11.3%
Median	14.8%	7.3%	10.0%	13.5%	10.6%
25th percentile	8.5%	5.3%	9.2%	10.6%	9.9%
75th percentile	20.2%	8.1%	11.9%	16.9%	13.1%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	61	180	50	12.9%
Median	60	175	46	12.6%
25th percentile	58	164	44	6.9%
75th percentile	64	199	59	17.4%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	5.6x	43.2x	6.1x	6.0x	22.5x
Median	5.5x	38.7x	5.9x	6.0x	23.3x
25th percentile	5.1x	32.8x	4.7x	5.2x	21.5x
75th percentile	6.0x	53.5x	7.2x	6.4x	23.6x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	62.2%	26.5%	12.9%	2.7x	1.5x
Median	63.5%	26.4%	12.1%	2.8x	1.2x
25th percentile	59.0%	26.0%	11.6%	2.0x	1.0x
75th percentile	65.7%	26.9%	14.2%	3.4x	2.2x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	4.6%	7.0%	154.6%	41.3%	17.8%
Median	4.6%	8.0%	154.0%	38.9%	18.4%
25th percentile	4.2%	5.6%	150.0%	35.2%	15.4%
75th percentile	4.8%	8.1%	157.8%	43.7%	20.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.92	0.88	0.95
Median	0.89	0.92	0.95
25th percentile	0.81	0.79	0.91
75th percentile	1.06	0.96	1.03

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.95	11.0%
Median	4.2%	7.2%	0.95	11.0%
25th percentile	4.2%	7.2%	0.91	10.7%
75th percentile	4.2%	7.2%	1.03	11.6%

Life Sciences Tools and Services

GICS : 352030

Industry comprises of companies enabling the drug discovery, development and production continuum by providing analytical tools, instruments, consumables & supplies, clinical trial services and contract research services. It also includes firms primarily servicing the pharmaceutical and biotechnology industries.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	20.6%	6.6%	9.1%	14.3%	11.9%
Median	14.0%	5.9%	7.7%	14.1%	11.7%
25th percentile	7.9%	5.2%	6.0%	12.3%	10.3%
75th percentile	22.4%	8.2%	11.1%	17.0%	14.5%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	71	115	48	10.8%
Median	68	113	46	10.6%
25th percentile	67	98	45	8.8%
75th percentile	73	132	55	12.1%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	5.7x	35.6x	5.9x	6.2x	22.3x
Median	5.5x	33.6x	4.7x	6.0x	23.3x
25th percentile	4.9x	30.8x	3.0x	5.4x	19.7x
75th percentile	6.5x	41.6x	7.0x	7.1x	23.8x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	52.2%	25.3%	12.0%	1.9x	1.3x
Median	51.2%	25.6%	13.4%	1.8x	1.3x
25th percentile	50.7%	25.5%	8.3%	1.6x	1.0x
75th percentile	53.6%	25.7%	14.7%	2.1x	1.4x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	4.3%	6.5%	140.3%	37.1%	13.9%
Median	4.3%	6.4%	118.4%	37.3%	14.9%
25th percentile	3.0%	5.6%	99.8%	33.7%	8.2%
75th percentile	5.7%	7.3%	170.4%	40.5%	19.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.98	1.04	0.92
Median	1.03	1.03	0.90
25th percentile	0.85	0.96	0.86
75th percentile	1.09	1.09	0.97

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.92	10.8%
Median	4.2%	7.2%	0.90	10.7%
25th percentile	4.2%	7.2%	0.86	10.4%
75th percentile	4.2%	7.2%	0.97	11.1%

Interactive Media and Services

GICS : 502030

Companies engaged in content and information creation or distribution through proprietary platforms, where revenues are derived primarily through pay-per-click advertisements are included in this industry. It also includes search engines, social media and networking platforms, online classifieds, and online review companies.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	21.2%	10.9%	13.3%	10.2%	8.2%
Median	27.4%	15.7%	18.1%	4.2%	4.0%
25th percentile	17.8%	4.0%	5.0%	1.7%	1.7%
75th percentile	27.7%	17.1%	21.7%	15.6%	13.5%

Debt Ratios

Activity ratios

	Days of sales	Days of payables	Revenue growth
Average	66	28	18.3%
Median	69	29	19.0%
25th percentile	49	16	16.2%
75th percentile	85	41	21.8%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	5.4x	19.4x	6.6x	5.9x	11.8x
Median	5.9x	19.4x	6.2x	6.2x	13.1x
25th percentile	5.0x	15.4x	5.9x	5.4x	10.5x
75th percentile	6.2x	23.5x	8.1x	6.5x	14.3x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	65.1%	29.1%	21.9%	2.9x	2.7x
Median	64.3%	31.3%	21.7%	2.7x	2.6x
25th percentile	56.2%	30.2%	18.3%	2.4x	2.2x
75th percentile	73.2%	34.1%	25.3%	3.0x	2.8x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	5.1%	4.8%	90.3%	64.0%	-2.2%
Median	4.6%	3.8%	79.6%	62.7%	-4.4%
25th percentile	2.0%	3.6%	41.0%	38.3%	-6.1%
75th percentile	8.3%	5.0%	131.2%	88.4%	-0.6%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.22	1.59	1.41
Median	1.24	1.65	1.49
25th percentile	1.16	1.51	1.29
75th percentile	1.29	1.73	1.55

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.41	14.3%
Median	4.2%	7.2%	1.49	14.9%
25th percentile	4.2%	7.2%	1.29	13.4%
75th percentile	4.2%	7.2%	1.55	15.3%

Media & Entertainment

GICS : 5020

Media and entertainment industry includes companies included in movies and entertainment, broadcasting, cables and satellites and publishing related services.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	11.8%	3.6%	6.7%	31.4%	18.6%
Median	10.1%	3.3%	6.3%	26.9%	17.5%
25th percentile	4.2%	2.4%	3.8%	19.5%	16.3%
75th percentile	17.0%	4.7%	10.0%	43.9%	21.2%

Debt Ratios

Activity ratios

	Days of sales	Days of payables	Revenue growth
Average	41	27	19.2%
Median	38	23	15.4%
25th percentile	22	20	10.6%
75th percentile	56	28	23.9%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	3.7x	30.5x	7.5x	3.5x	20.6x
Median	3.7x	20.2x	3.2x	3.4x	13.8x
25th percentile	2.5x	14.4x	1.7x	2.7x	10.3x
75th percentile	4.7x	43.5x	10.4x	4.3x	20.9x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	43.6%	17.6%	5.9%	1.3x	1.0x
Median	44.7%	19.8%	6.4%	1.2x	0.9x
25th percentile	41.2%	14.9%	2.6%	1.1x	0.9x
75th percentile	47.4%	21.4%	8.5%	1.3x	1.0x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	2.8%	5.4%	199.6%	14.2%	-14.8%
Median	2.4%	5.6%	127.4%	10.1%	-16.1%
25th percentile	2.2%	3.4%	108.0%	6.5%	-18.1%
75th percentile	3.0%	6.5%	206.3%	20.9%	-8.9%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.10	1.04	0.97
Median	1.16	0.94	0.96
25th percentile	1.00	0.91	0.86
75th percentile	1.25	1.19	1.05

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.97	11.2%
Median	4.2%	7.2%	0.96	11.1%
25th percentile	4.2%	7.2%	0.86	10.3%
75th percentile	4.2%	7.2%	1.05	11.7%

■ Telecommunication services

GICS : 50101020, 50102010

Industry includes operators of primarily fixed-line telecommunications networks and companies providing both wireless and fixed-line telecommunications services. It also includes internet service providers offering internet access to end users.

Industry also includes providers of primarily cellular or wireless telecommunication services.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	13.1%	5.4%	7.4%	102.8%	48.3%
Median	12.7%	5.6%	7.5%	112.7%	52.8%
25th percentile	12.5%	5.2%	7.0%	87.0%	45.4%
75th percentile	13.4%	5.8%	7.9%	123.5%	53.5%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	52	19	120	3.1%
Median	46	19	80	3.1%
25th percentile	44	17	71	2.3%
75th percentile	57	21	148	3.9%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	1.5x	15.0x	1.9x	2.9x	7.0x
Median	1.2x	13.7x	1.7x	2.5x	6.3x
25th percentile	1.1x	11.1x	1.3x	2.4x	6.2x
75th percentile	1.8x	18.3x	2.3x	3.1x	7.5x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	60.2%	40.7%	10.3%	0.8X	0.5X
Median	59.1%	39.9%	10.6%	0.7X	0.5X
25th percentile	59.1%	39.3%	9.6%	0.7X	0.5X
75th percentile	60.8%	41.6%	11.2%	0.8X	0.6X

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	13.7%	14.1%	104.3%	4.5%	-2.2%
Median	14.0%	13.1%	93.8%	4.5%	-0.9%
25th percentile	13.2%	13.0%	91.0%	2.5%	-4.1%
75th percentile	14.3%	14.7%	112.3%	6.4%	0.4%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.25	0.48	0.63
Median	0.27	0.51	0.68
25th percentile	0.23	0.43	0.56
75th percentile	0.28	0.55	0.72

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.63	8.7%
Median	4.2%	7.2%	0.68	9.1%
25th percentile	4.2%	7.2%	0.56	8.2%
75th percentile	4.2%	7.2%	0.72	9.4%

Restaurants

GICS : 25301040

Restaurant industry includes owners and operators of restaurants, bars, pubs, fast-food or take-out facilities. It also includes companies that provide food catering services.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	20.6%	12.6%	16.9%	20.6%	17.9%
Median	20.6%	12.1%	16.1%	22.6%	19.1%
25th percentile	16.7%	8.2%	10.5%	12.2%	13.9%
75th percentile	24.4%	16.0%	20.8%	27.4%	22.3%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	15	7	20	14.5%
Median	13	6	17	12.2%
25th percentile	13	3	12	9.9%
75th percentile	20	11	24	18.2%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	3.7x	27.0x	5.9x	4.8x	16.4x
Median	3.3x	25.5x	5.8x	4.3x	17.0x
25th percentile	2.7x	21.3x	5.2x	3.9x	13.2x
75th percentile	4.7x	26.8x	7.1x	6.1x	18.4x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	34.0%	26.8%	11.4%	1.3x	1.0x
Median	34.0%	26.1%	11.5%	1.3x	1.0x
25th percentile	27.9%	22.3%	8.9%	1.2x	0.9x
75th percentile	40.1%	30.4%	13.1%	1.5x	1.0x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	5.9%	3.2%	60.0%	8.7%	-7.5%
Median	6.1%	3.2%	59.6%	8.2%	-8.6%
25th percentile	5.5%	2.9%	52.7%	5.3%	-10.1%
75th percentile	6.5%	3.5%	64.2%	11.6%	-4.3%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.75	0.86	1.00
Median	0.75	0.85	1.05
25th percentile	0.66	0.72	0.91
75th percentile	0.85	0.96	1.08

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.00	11.4%
Median	4.2%	7.2%	1.05	11.7%
25th percentile	4.2%	7.2%	0.91	10.7%
75th percentile	4.2%	7.2%	1.08	11.9%

Hotels, Resorts and Cruise Lines

GICS : 25301020

Industry includes owners and operators of hotels, resorts and cruise ships, travel agencies, tour operators and related services.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	32.9%	5.6%	9.9%	32.1%	22.5%
Median	38.8%	5.8%	9.7%	27.8%	21.7%
25th percentile	14.4%	5.2%	8.0%	21.7%	18.9%
75th percentile	43.2%	6.2%	12.3%	37.3%	24.6%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	70	6	83	41.1%
Median	69	1	37	41.7%
25th percentile	48	0	34	35.0%
75th percentile	93	9	107	44.5%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	3.6x	28.8x	5.7x	5.0x	14.9x
Median	3.4x	24.8x	6.1x	4.3x	13.2x
25th percentile	2.8x	18.7x	3.7x	3.8x	12.0x
75th percentile	3.7x	31.1x	7.0x	5.6x	18.4x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	76.1%	31.8%	18.1%	0.8x	0.6x
Median	77.8%	31.3%	19.4%	0.7x	0.6x
25th percentile	72.3%	28.7%	13.8%	0.7x	0.5x
75th percentile	81.6%	32.5%	21.7%	0.8x	0.6x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	5.9%	5.0%	98.0%	14.8%	-35.8%
Median	5.3%	5.5%	85.3%	10.7%	-34.8%
25th percentile	3.6%	3.3%	77.0%	8.5%	-39.0%
75th percentile	7.0%	6.5%	97.4%	19.0%	-31.5%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.12	1.18	1.13
Median	1.14	1.16	1.10
25th percentile	1.04	1.12	1.08
75th percentile	1.21	1.17	1.14

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.13	12.3%
Median	4.2%	7.2%	1.10	12.1%
25th percentile	4.2%	7.2%	1.08	12.0%
75th percentile	4.2%	7.2%	1.14	12.4%

■ Apparel, Accessories and Luxury Goods

GICS : 25203010

Industry includes manufacturers of apparel, accessories & luxury goods. It includes companies primarily producing designer handbags, wallets, luggage, jewellery and watches.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	31.8%	10.2%	13.9%	12.3%	10.7%
Median	31.3%	10.9%	15.0%	12.1%	10.8%
25th percentile	29.3%	8.4%	10.7%	10.8%	9.7%
75th percentile	35.4%	11.7%	15.9%	13.6%	11.8%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	25	123	58	13.1%
Median	27	115	61	10.7%
25th percentile	21	106	50	6.2%
75th percentile	31	132	63	19.6%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	2.8x	34.1x	9.8x	2.7x	16.2x
Median	2.5x	32.3x	10.3x	2.4x	14.4x
25th percentile	1.8x	31.3x	9.0x	1.8x	12.6x
75th percentile	3.8x	34.0x	11.1x	3.5x	20.8x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	50.2%	19.1%	8.4%	2.2x	1.2x
Median	51.1%	17.9%	8.1%	2.2x	1.3x
25th percentile	45.2%	17.0%	7.3%	2.0x	1.0x
75th percentile	54.5%	20.9%	9.5%	2.3x	1.4x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	3.0%	2.5%	68.5%	27.1%	10.4%
Median	2.9%	2.5%	60.3%	27.5%	9.9%
25th percentile	2.6%	2.2%	57.6%	21.6%	8.9%
75th percentile	3.4%	2.8%	74.8%	32.6%	11.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.94	1.24	1.18
Median	0.96	1.24	1.16
25th percentile	0.84	1.23	1.16
75th percentile	1.07	1.26	1.21

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.18	12.7%
Median	4.2%	7.2%	1.16	12.5%
25th percentile	4.2%	7.2%	1.16	12.5%
75th percentile	4.2%	7.2%	1.21	12.8%

■ Broadline Retail

GICS : 255030

Industry includes retailers offering a wide range of consumer discretionary merchandise. It also includes general and discount merchandise retailers, department stores and on-line retailers and marketplaces selling mostly consumer discretionary merchandise.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	25.7%	7.9%	11.7%	12.5%	10.2%
Median	23.0%	8.5%	10.6%	10.3%	9.3%
25th percentile	14.1%	6.0%	8.1%	9.6%	8.8%
75th percentile	39.7%	10.1%	14.8%	14.4%	11.6%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	13	21	80	18.1%
Median	8	22	70	16.8%
25th percentile	4	18	58	14.2%
75th percentile	20	26	93	19.4%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	2.2x	19.7x	4.3x	2.3x	16.4x
Median	2.2x	20.2x	3.5x	2.2x	18.0x
25th percentile	1.6x	14.8x	1.5x	1.3x	14.7x
75th percentile	2.7x	22.8x	7.2x	2.9x	19.7x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	51.2%	16.3%	7.4%	1.4x	1.2x
Median	52.6%	17.1%	7.0%	1.2x	1.2x
25th percentile	44.4%	16.0%	5.9%	1.2x	0.9x
75th percentile	59.3%	18.9%	8.1%	1.7x	1.5x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	3.2%	2.4%	78.8%	35.8%	-13.4%
Median	3.6%	2.1%	88.4%	37.7%	-13.2%
25th percentile	2.3%	1.2%	50.3%	34.7%	-15.8%
75th percentile	3.9%	3.6%	97.6%	37.8%	-10.9%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.80	0.99	0.86
Median	0.79	1.06	0.86
25th percentile	0.59	0.86	0.83
75th percentile	0.96	1.11	0.87

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.86	10.4%
Median	4.2%	7.2%	0.86	10.3%
25th percentile	4.2%	7.2%	0.83	10.1%
75th percentile	4.2%	7.2%	0.87	10.4%

■ Automobile Manufacturers

GICS : 25102010

Industry includes companies that produce mainly passenger automobiles and light trucks.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	20.3%	5.0%	10.8%	13.3%	14.9%
Median	19.3%	5.3%	9.5%	13.5%	18.0%
25th percentile	17.0%	3.2%	7.0%	2.0%	11.2%
75th percentile	25.0%	6.7%	15.0%	24.3%	19.2%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	30	71	72	23.5%
Median	30	61	69	17.6%
25th percentile	24	47	64	12.0%
75th percentile	32	96	74	28.8%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	4.5x	22.7x	2.7x	3.3x	19.2x
Median	3.3x	18.5x	2.5x	1.9x	13.1x
25th percentile	2.3x	10.5x	2.1x	1.1x	10.4x
75th percentile	6.6x	28.0x	3.5x	3.9x	20.2x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	16.8%	12.2%	11.5%	1.4x	1.2x
Median	17.3%	11.1%	12.1%	1.4x	1.1x
25th percentile	10.7%	8.1%	5.6%	1.2x	1.0x
75th percentile	19.2%	14.7%	16.3%	1.7x	1.3x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	9.4%	4.8%	64.6%	30.2%	7.4%
Median	6.4%	4.5%	61.1%	28.2%	9.6%
25th percentile	5.0%	3.7%	53.4%	13.3%	4.9%
75th percentile	8.6%	5.1%	75.3%	41.5%	11.0%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.08	1.18	1.15
Median	1.08	1.25	1.14
25th percentile	0.97	1.16	1.07
75th percentile	1.21	1.27	1.25

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.15	12.5%
Median	4.2%	7.2%	1.14	12.4%
25th percentile	4.2%	7.2%	1.07	11.9%
75th percentile	4.2%	7.2%	1.25	13.2%

Consumer Staples Merchandise Retail

GICS : 30101040

Industry includes retailers offering a wide range of consumer staples merchandise such as food, household, and personal care products. This Industry also includes hypermarkets, super centres and other consumer staples retailers such as discount retail spaces and on-line marketplaces selling mostly consumer staples goods, owners and operators of primary drug retail stores, distributors of food products, etc.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	21.2%	7.4%	10.9%	36.4%	28.0%
Median	19.6%	7.5%	10.6%	33.9%	26.0%
25th percentile	13.0%	6.3%	9.4%	30.0%	23.9%
75th percentile	25.3%	8.5%	12.6%	44.7%	31.2%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	5	35	35	13.1%
Median	4	30	34	13.1%
25th percentile	3	27	32	12.1%
75th percentile	5	37	38	13.5%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	0.6x	20.4x	4.8x	0.7x	10.1x
Median	0.5x	21.0x	5.1x	0.7x	10.4x
25th percentile	0.5x	18.5x	3.2x	0.6x	7.9x
75th percentile	0.7x	22.7x	5.6x	0.8x	11.6x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	20.3%	5.6%	2.0%	1.2x	0.3x
Median	18.9%	5.9%	2.3%	1.2x	0.2x
25th percentile	17.9%	4.7%	1.7%	1.1x	0.2x
75th percentile	23.0%	6.4%	2.6%	1.3x	0.2x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	2.0%	1.4%	65.2%	3.3%	3.3%
Median	1.9%	1.3%	56.0%	3.3%	2.9%
25th percentile	1.7%	1.1%	48.6%	2.6%	2.4%
75th percentile	2.2%	1.7%	71.0%	4.0%	4.0%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.63	0.76	0.83
Median	0.62	0.77	0.81
25th percentile	0.55	0.74	0.74
75th percentile	0.70	0.80	0.84

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.83	10.5%
Median	4.2%	7.2%	0.81	10.0%
25th percentile	4.2%	7.2%	0.74	9.5%
75th percentile	4.2%	7.2%	0.84	10.2%

Beverages

GICS : 302010

Beverages industry includes soft drink and non-alcoholic beverages manufacturers, distillers and vintners and beverages manufacturer.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	24.7%	10.3%	13.8%	22.0%	17.7%
Median	21.4%	10.4%	14.4%	21.0%	17.2%
25th percentile	12.2%	9.1%	12.2%	18.1%	15.3%
75th percentile	34.4%	10.4%	16.1%	27.4%	21.3%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	33	78	79	9.2%
Median	34	79	74	8.8%
25th percentile	33	44	61	7.6%
75th percentile	35	105	102	10.5%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	4.5x	30.5x	6.0x	5.3x	19.1x
Median	4.7x	24.8x	6.2x	6.1x	17.6x
25th percentile	3.1x	20.5x	2.3x	4.1x	15.5x
75th percentile	5.6x	35.4x	8.6x	6.3x	21.4x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	52.1%	27.1%	12.7%	1.0x	0.6x
Median	53.1%	28.7%	12.3%	1.1x	0.7x
25th percentile	50.5%	22.3%	8.6%	0.9x	0.4x
75th percentile	54.2%	31.3%	16.6%	1.2x	0.9x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	4.4%	3.2%	55.2%	12.3%	15.8%
Median	4.2%	3.7%	51.1%	12.4%	16.7%
25th percentile	3.3%	2.5%	40.5%	5.0%	14.9%
75th percentile	5.4%	4.1%	60.9%	19.6%	17.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.57	0.55	0.76
Median	0.59	0.54	0.76
25th percentile	0.45	0.45	0.70
75th percentile	0.70	0.60	0.82

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.76	9.6%
Median	4.2%	7.2%	0.76	9.6%
25th percentile	4.2%	7.2%	0.70	9.2%
75th percentile	4.2%	7.2%	0.82	10.1%

■ Packaged Foods and Meats

GICS : 30202030

Industry includes producers of packaged foods including dairy products, fruit juices, meats, poultry, fish and pet foods.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	15.9%	6.3%	8.9%	33.2%	23.6%
Median	16.0%	6.1%	8.3%	33.0%	24.6%
25th percentile	9.7%	5.9%	7.6%	29.1%	21.4%
75th percentile	22.5%	6.3%	10.1%	36.3%	25.1%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	28	68	81	4.9%
Median	27	72	79	4.5%
25th percentile	25	64	69	3.3%
75th percentile	30	74	94	6.5%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	1.6x	19.6x	3.4x	2.1x	12.7x
Median	1.5x	20.0x	3.5x	2.0x	12.8x
25th percentile	1.5x	15.6x	2.9x	1.9x	11.5x
75th percentile	1.7x	21.7x	3.6x	2.3x	14.0x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	31.8%	20.0%	8.9%	0.9x	0.4x
Median	32.6%	19.8%	9.2%	0.9x	0.4x
25th percentile	30.3%	19.1%	6.9%	0.9x	0.3x
75th percentile	33.1%	21.5%	10.5%	1.0x	0.4x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	4.0%	3.4%	82.5%	5.9%	-1.5%
Median	3.8%	3.4%	84.8%	8.1%	-2.0%
25th percentile	3.4%	3.2%	71.2%	1.8%	-2.8%
75th percentile	4.0%	3.6%	92.9%	9.0%	-1.0%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.26	0.29	0.51
Median	0.24	0.28	0.56
25th percentile	0.19	0.24	0.47
75th percentile	0.33	0.31	0.57

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.51	7.8%
Median	4.2%	7.2%	0.56	8.2%
25th percentile	4.2%	7.2%	0.47	7.6%
75th percentile	4.2%	7.2%	0.57	8.3%

Household and Personal Products

GICS : 3030

Industry includes producers of non-durable household products, including detergents, soaps, diapers and other tissue and household paper products, personal and beauty care products, including cosmetics and perfumes.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	54.4%	9.7%	14.9%	15.4%	13.2%
Median	20.6%	9.6%	14.9%	15.3%	13.1%
25th percentile	17.5%	9.3%	11.3%	11.8%	10.6%
75th percentile	34.9%	11.4%	17.6%	19.0%	15.7%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	31	91	101	4.5%
Median	30	70	99	4.9%
25th percentile	29	60	79	3.4%
75th percentile	33	114	120	5.7%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	3.0x	30.0x	20.8x	3.5x	16.4x
Median	3.3x	26.4x	13.8x	3.7x	16.8x
25th percentile	2.2x	23.5x	7.6x	2.8x	15.3x
75th percentile	3.7x	30.2x	33.7x	4.1x	17.7x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	53.6%	20.3%	9.9%	1.0x	0.5x
Median	53.1%	19.9%	9.9%	1.0x	0.6x
25th percentile	47.1%	19.6%	8.8%	0.8x	0.4x
75th percentile	59.6%	20.7%	11.5%	1.1x	0.6x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	3.7%	3.5%	104.7%	3.8%	-2.2%
Median	3.7%	3.3%	98.3%	4.9%	-0.9%
25th percentile	3.7%	3.0%	84.5%	2.9%	-4.2%
75th percentile	3.8%	3.8%	99.9%	5.3%	-0.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.57	0.35	0.69
Median	0.29	0.35	0.56
25th percentile	0.26	0.32	0.47
75th percentile	0.86	0.36	0.95

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.69	9.2%
Median	4.2%	7.2%	0.56	8.2%
25th percentile	4.2%	7.2%	0.47	7.6%
75th percentile	4.2%	7.2%	0.95	11.0%

Insurance

GICS : 403010

The insurance sector is made up of companies that offer risk management in the form of insurance contracts. It includes companies providing Life and health insurance, Property and Casualty Insurance, Multi-line Insurance and Insurance brokers. It excludes companies providing reinsurance services.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	17.1%	3.9%	11.6%	21.8%	17.6%
Median	16.3%	3.9%	10.7%	20.6%	17.0%
25th percentile	10.3%	3.3%	9.6%	18.8%	15.7%
75th percentile	22.0%	4.6%	13.6%	23.9%	19.3%

Debt Ratios

Activity ratios

	Days of sales	Days of payables	Revenue growth
Average	75	87	8.5%
Median	83	81	8.8%
25th percentile	65	66	6.8%
75th percentile	86	109	10.0%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	2.0x	14.6x	2.3x	2.3x	11.3x
Median	1.9x	12.9x	1.8x	2.2x	10.6x
25th percentile	1.5x	10.1x	1.4x	1.6x	9.9x
75th percentile	2.4x	19.2x	2.5x	2.8x	11.2x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	32.2%	18.7%	10.9%	1.0x	0.6x
Median	33.2%	18.4%	10.7%	1.0x	0.5x
25th percentile	30.0%	16.5%	10.2%	0.4x	0.3x
75th percentile	34.5%	19.9%	11.4%	1.3x	0.6x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	1.3%	1.5%	167.7%	15.1%	1.9%
Median	1.1%	1.6%	177.0%	16.2%	1.8%
25th percentile	1.0%	1.1%	158.3%	12.9%	1.7%
75th percentile	1.6%	1.8%	186.4%	17.5%	2.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.35	0.67	0.92
Median	0.35	0.68	0.90
25th percentile	0.31	0.62	0.85
75th percentile	0.40	0.71	0.98

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.92	10.8%
Median	4.2%	7.2%	0.90	10.7%
25th percentile	4.2%	7.2%	0.85	10.3%
75th percentile	4.2%	7.2%	0.98	11.2%

Banks

GICS : 40101010

The industry comprises of large, geographically diverse banks with a national footprint whose revenues are derived primarily from conventional banking operations, have significant business activity in retail banking and small and medium corporate lending, and provide a diverse range of financial services. It excludes banks classified in the Regional Banks and Commercial & Residential Mortgage Finance Sub-Industries, investment banks classified in the Investment Banking & Brokerage Sub-Industry.



Return Ratios

	Return on equity	Earning asset yield	Gross loans/total deposits	Profitability
				Net interest margin
Average	1.2%	4.9%	66.3%	3.1%
Median	1.0%	5.0%	69.4%	2.8%
25th percentile	0.8%	4.8%	56.4%	2.5%
75th percentile	1.3%	5.0%	73.9%	3.1%

Capital adequacy ratios

	Tier 1 capital	Tier 2 capital	Total capital ratio	Price multiples
				Price/LTM EPS
				Price/BV
Average	12.5%	1.7%	14.5%	11.8x
Median	12.4%	1.7%	14.2%	10.9x
25th percentile	11.6%	1.4%	13.7%	10.5x
75th percentile	13.5%	2.0%	15.2%	12.7x

NPA/NPL ratios

	Gross NPA/total assets	Gross NPA	Net NPA
Average	0.3%	0.9%	1.0%
Median	0.3%	0.9%	0.9%
25th percentile	0.2%	0.8%	0.7%
75th percentile	0.4%	1.0%	0.9%

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.99	1.00	1.24
Median	0.96	1.00	1.22
25th percentile	0.93	0.99	1.20
75th percentile	1.02	1.01	1.27

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.24	13.1%
Median	4.2%	7.2%	1.22	13.0%
25th percentile	4.2%	7.2%	1.20	12.8%
75th percentile	4.2%	7.2%	1.27	13.3%

Aerospace and Defense

GICS : 201010

The aerospace manufacturing and defense industry comprises of companies involved in the manufacturing of aircraft, space vehicles, engines, and parts, as well as maintenance, repair, and overhaul (MRO) services. The companies used in our analysis caters to Defense and commercial aerospace manufacturing.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	13.5%	6.2%	9.2%	22.0%	17.9%
Median	13.7%	5.7%	8.6%	22.7%	18.5%
25th percentile	12.4%	5.2%	8.3%	17.2%	14.7%
75th percentile	16.5%	8.4%	10.9%	26.4%	20.9%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	73	97	40	6.4%
Median	69	93	37	6.4%
25th percentile	65	75	32	5.5%
75th percentile	81	122	48	7.2%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	2.2x	26.3x	3.7x	2.6x	16.8x
Median	2.0x	26.6x	3.5x	2.5x	16.0x
25th percentile	1.8x	18.4x	2.3x	2.1x	14.5x
75th percentile	2.8x	34.0x	4.6x	3.0x	18.7x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	20.7%	15.7%	7.4%	1.7x	1.0x
Median	17.5%	14.7%	6.7%	1.6x	0.9x
25th percentile	16.6%	12.0%	5.9%	1.2x	0.8x
75th percentile	25.1%	18.1%	8.0%	2.0x	1.1x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	2.5%	3.8%	148.1%	25.5%	11.9%
Median	2.5%	4.1%	140.4%	26.7%	14.4%
25th percentile	2.2%	3.3%	122.5%	21.7%	6.0%
75th percentile	2.6%	4.1%	169.9%	32.2%	17.2%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.62	0.75	1.05
Median	0.66	0.75	1.03
25th percentile	0.57	0.63	1.03
75th percentile	0.69	0.88	1.06

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.05	11.7%
Median	4.2%	7.2%	1.03	11.6%
25th percentile	4.2%	7.2%	1.03	11.6%
75th percentile	4.2%	7.2%	1.06	11.8%

Air Freight and Logistics

GICS : 203010

The industry includes companies providing air freight transportation, courier and logistics services, including package and mail delivery and customs agents.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	20.4%	7.9%	11.4%	13.7%	11.7%
Median	19.5%	7.9%	10.7%	16.0%	13.7%
25th percentile	15.5%	6.7%	9.6%	10.2%	9.1%
75th percentile	24.4%	9.2%	12.5%	19.5%	16.3%

Debt Ratios

Activity ratios

	Days of sales	Days of payables	Revenue growth
Average	56	34	4.8%
Median	55	36	2.8%
25th percentile	48	33	2.6%
75th percentile	63	36	6.0%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	1.2x	18.9x	6.2x	1.3x	11.0x
Median	1.1x	18.2x	7.4x	1.4x	10.0x
25th percentile	0.7x	15.6x	5.9x	1.0x	9.4x
75th percentile	1.6x	21.4x	7.7x	1.7x	12.1x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	23.6%	16.0%	5.4%	1.3x	1.1x
Median	25.0%	17.0%	5.9%	1.4x	1.1x
25th percentile	20.8%	15.2%	3.8%	1.3x	1.0x
75th percentile	27.9%	17.3%	7.6%	1.4x	1.3x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	3.3%	2.4%	126.5%	10.1%	3.1%
Median	3.0%	2.2%	120.0%	7.4%	3.4%
25th percentile	0.4%	0.6%	67.0%	6.3%	2.1%
75th percentile	6.0%	3.9%	179.4%	11.2%	4.3%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.84	0.87	0.72
Median	0.90	0.90	0.72
25th percentile	0.81	0.85	0.62
75th percentile	0.93	0.92	0.82

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	0.72	9.4%
Median	4.2%	7.2%	0.72	9.4%
25th percentile	4.2%	7.2%	0.62	8.7%
75th percentile	4.2%	7.2%	0.82	10.1%

Passenger Airlines

GICS : 203020

The industry includes companies providing primarily passenger air transportation.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	29.6%	5.5%	9.5%	222.0%	60.6%
Median	32.3%	5.7%	8.7%	190.8%	62.7%
25th percentile	18.3%	5.2%	8.4%	96.0%	48.0%
75th percentile	42.2%	5.9%	10.2%	316.8%	75.3%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	14	13	37	47.3%
Median	14	14	36	47.6%
25th percentile	11	12	36	44.3%
75th percentile	17	14	38	50.7%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	0.4x	7.2x	1.8x	0.7x	3.7x
Median	0.3x	5.6x	1.6x	0.7x	3.7x
25th percentile	0.2x	5.4x	1.5x	0.6x	3.4x
75th percentile	0.5x	8.2x	2.0x	0.8x	4.0x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	24.0%	20.7%	2.7%	0.7x	0.6x
Median	23.4%	20.4%	1.8%	0.7x	0.6x
25th percentile	22.9%	20.1%	1.7%	0.6x	0.4x
75th percentile	24.7%	21.1%	3.3%	0.9x	0.8x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	12.0%	4.6%	36.1%	4.7%	-24.5%
Median	13.3%	4.7%	35.9%	4.7%	-24.7%
25th percentile	11.3%	4.5%	35.4%	3.4%	-25.4%
75th percentile	13.5%	4.8%	36.8%	6.1%	-23.7%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.27	1.38	1.38
Median	1.23	1.38	1.39
25th percentile	1.22	1.32	1.33
75th percentile	1.30	1.43	1.43

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.38	14.1%
Median	4.2%	7.2%	1.39	14.1%
25th percentile	4.2%	7.2%	1.33	13.8%
75th percentile	4.2%	7.2%	1.43	14.4%

Human Resource and Employment Services

GICS : 20202010

Industry includes companies providing business support services relating to human capital management. This includes employment agencies, employee training, payroll processing, benefit & retirement support services, corporate & job seeker recruitment services, and online job portals generating revenue from fees or commissions for offering recruitment services to companies or job seekers.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	24.5%	7.1%	23.7%	2.0%	1.9%
Median	26.0%	7.1%	22.2%	2.1%	2.0%
25th percentile	19.3%	5.1%	17.8%	0.8%	0.8%
75th percentile	27.4%	9.1%	28.1%	2.6%	2.6%

Debt Ratios

Activity ratios

	Days of sales	Days of payables	Revenue growth
Average	40	17	14.1%
Median	45	19	7.8%
25th percentile	29	12	7.4%
75th percentile	57	24	21.6%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	7.1x	35.7x	8.5x	7.1x	18.5x
Median	7.0x	28.2x	9.2x	7.3x	18.7x
25th percentile	6.8x	27.6x	5.8x	6.9x	17.4x
75th percentile	7.9x	35.0x	11.0x	7.7x	19.7x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	58.6%	22.9%	14.4%	1.1x	0.2x
Median	58.1%	23.1%	15.5%	1.1x	0.1x
25th percentile	47.2%	16.4%	10.6%	1.1x	0.1x
75th percentile	69.4%	29.6%	19.2%	1.1x	0.2x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	1.6%	3.0%	160.6%	23.6%	3.5%
Median	1.3%	3.1%	128.9%	20.9%	3.7%
25th percentile	1.1%	2.9%	122.2%	17.8%	2.4%
75th percentile	1.9%	3.2%	167.3%	26.7%	4.8%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	1.04	1.28	1.18
Median	1.08	1.31	1.08
25th percentile	0.85	1.03	1.03
75th percentile	1.27	1.56	1.37

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.18	12.7%
Median	4.2%	7.2%	1.08	12.0%
25th percentile	4.2%	7.2%	1.03	11.6%
75th percentile	4.2%	7.2%	1.37	14.0%

Machinery, Supplies and components

GICS : 201040

Industry includes companies involved in manufacturing of construction machinery & heavy transportation equipment, agriculture and farm machinery and industrial machinery and allied components.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	22.4%	10.4%	14.0%	16.7%	15.5%
Median	21.4%	10.2%	13.8%	17.1%	14.8%
25th percentile	18.4%	9.3%	11.7%	11.8%	13.7%
75th percentile	26.2%	11.8%	16.5%	19.8%	16.9%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	58	93	56	13.8%
Median	56	91	57	13.3%
25th percentile	52	89	51	11.4%
75th percentile	64	94	60	16.4%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	3.0x	21.9x	4.3x	3.3x	15.3x
Median	3.0x	24.8x	4.0x	3.2x	15.2x
25th percentile	2.9x	15.6x	3.2x	3.0x	14.7x
75th percentile	3.1x	28.3x	5.3x	3.6x	16.1x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	36.1%	22.8%	14.8%	1.9x	1.1x
Median	35.3%	22.9%	14.3%	1.9x	1.1x
25th percentile	34.6%	21.8%	12.5%	1.8x	1.0x
75th percentile	36.8%	23.5%	17.4%	2.1x	1.3x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	2.9%	3.7%	163.8%	27.3%	14.4%
Median	3.1%	3.8%	162.9%	27.6%	13.1%
25th percentile	2.3%	3.3%	149.5%	22.6%	11.1%
75th percentile	3.4%	4.0%	169.8%	31.4%	15.1%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.96	0.94	1.07
Median	0.94	0.93	1.08
25th percentile	0.91	0.88	1.02
75th percentile	0.99	0.99	1.10

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.07	11.8%
Median	4.2%	7.2%	1.08	12.0%
25th percentile	4.2%	7.2%	1.02	11.5%
75th percentile	4.2%	7.2%	1.10	12.1%

Chemicals

GICS : 151010

Industry includes speciality chemical companies, commodity chemicals companies and Fertilizer and agricultural chemical companies.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	17.0%	5.7%	8.1%	31.0%	21.6%
Median	17.6%	5.4%	7.6%	28.4%	20.0%
25th percentile	16.5%	4.2%	5.7%	24.2%	19.9%
75th percentile	18.1%	7.3%	10.1%	38.9%	23.4%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	46	84	74	12.8%
Median	44	92	71	11.8%
25th percentile	42	70	66	9.5%
75th percentile	47	96	85	16.6%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	1.8x	31.6x	2.6x	2.4x	12.8x
Median	1.9x	33.3x	1.9x	2.4x	13.2x
25th percentile	1.7x	28.8x	1.5x	2.2x	10.8x
75th percentile	2.0x	37.1x	2.3x	2.7x	14.7x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	28.4%	18.7%	6.3%	1.6x	0.9x
Median	27.9%	18.2%	6.6%	1.6x	0.9x
25th percentile	23.5%	16.9%	4.0%	1.5x	0.8x
75th percentile	32.8%	20.2%	8.7%	1.8x	1.0x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	5.6%	6.2%	99.0%	23.5%	11.8%
Median	5.1%	6.1%	94.4%	24.0%	10.7%
25th percentile	4.1%	5.6%	91.1%	18.3%	9.6%
75th percentile	6.8%	7.2%	110.4%	26.6%	13.9%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.93	0.99	1.10
Median	0.94	1.00	1.12
25th percentile	0.82	0.92	1.07
75th percentile	1.00	1.04	1.14

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.10	12.1%
Median	4.2%	7.2%	1.12	12.2%
25th percentile	4.2%	7.2%	1.07	11.9%
75th percentile	4.2%	7.2%	1.14	12.4%

Oil, Gas and Consumable Fuels

GICS : 101020

Industry includes companies engaged in oil and gas exploration and production of oil and gas services, refining, marketing, storage and transportation services.



Return Ratios

	Return on equity	Return on assets	Return on capital	Debt/equity	Debt/capital
Average	28.1%	9.6%	12.6%	44.5%	26.6%
Median	21.3%	9.6%	12.6%	44.9%	26.2%
25th percentile	14.4%	8.5%	12.1%	39.1%	24.8%
75th percentile	30.2%	10.5%	13.0%	50.7%	29.2%

Debt Ratios

Activity ratios

	Days of sales	Days of inventory	Days of payables	Revenue growth
Average	43	23	66	27.4%
Median	42	25	58	27.4%
25th percentile	41	21	52	24.4%
75th percentile	43	26	68	30.1%

Historical CAGR% (3 Yr)

Price multiples

	Price/revenue	Price/earnings	Market/book	EV/revenue	EV/EBITDA
Average	2.1x	10.9x	1.9x	2.8x	6.6x
Median	2.2x	11.0x	1.8x	2.8x	6.3x
25th percentile	1.9x	9.4x	1.3x	2.4x	5.8x
75th percentile	2.4x	12.6x	2.5x	3.0x	7.2x

Enterprise value (EV) multiples

Profitability ratios

	Gross margin	EBITDA margin	Net profit margin	Current ratio	Quick ratio
Average	46.4%	48.1%	19.4%	1.1x	0.8x
Median	49.1%	49.1%	17.8%	1.1x	0.8x
25th percentile	38.4%	43.3%	15.8%	1.0x	0.8x
75th percentile	53.7%	51.9%	22.8%	1.1x	0.9x

Liquidity ratios

Capital expenditure and depreciation ratios

	Capex/revenue	D&A/revenue	D&A/Capex	DFWC/revenue	DFCFWC/revenue
Average	21.2%	14.8%	94.5%	7.0%	1.4%
Median	22.2%	14.7%	85.4%	7.2%	1.4%
25th percentile	19.4%	14.4%	80.9%	5.2%	1.2%
75th percentile	23.7%	15.7%	107.0%	9.3%	1.7%

Working capital ratios

Betas (levered)

	1 Yr	3 Yr	5 Yr
Average	0.49	0.76	1.11
Median	0.49	0.75	1.10
25th percentile	0.46	0.71	1.08
75th percentile	0.53	0.82	1.15

Cost of equity

	Risk free rate	ERP	Beta	Cost of Equity
Average	4.2%	7.2%	1.11	12.1%
Median	4.2%	7.2%	1.10	12.1%
25th percentile	4.2%	7.2%	1.08	11.9%
75th percentile	4.2%	7.2%	1.15	12.4%

■ Analyses of ratios and multiples

Introduction to ratios

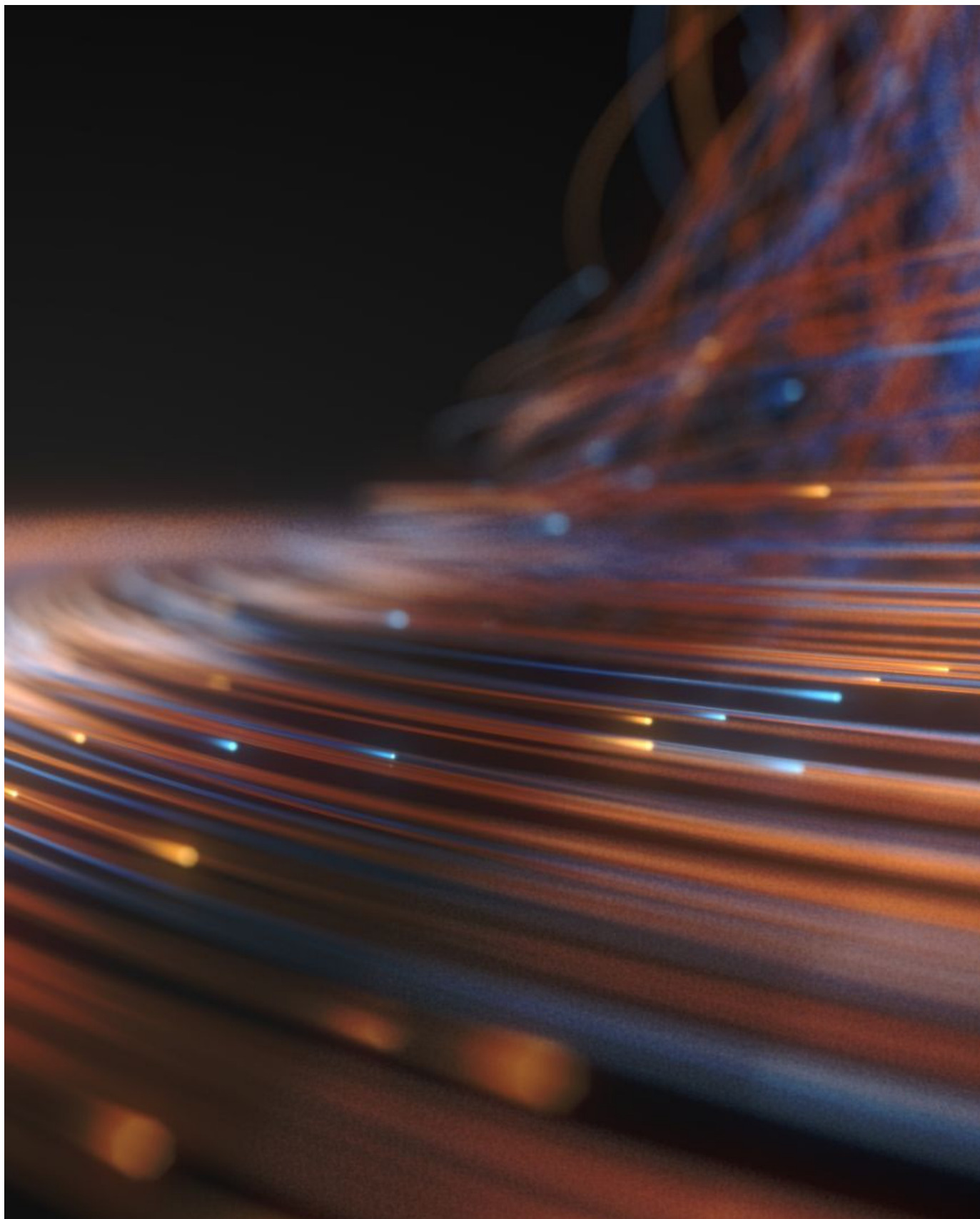
Ratios serve as fundamental tools in financial analysis, providing insights into the comparative values of two numbers derived from financial statements—namely, the balance sheet, income statement, and cash flow statement. These ratios are instrumental in assessing various facets of an entity's operational and financial performance, including efficiency, liquidity, profitability, and solvency.

Outliers and normalization adjustments

In our analysis, companies exhibiting abnormal metrics, which can distort statistical measures, have been classified as outliers. This classification is based on a thorough investigation into the underlying causes of these anomalies. To ensure the integrity and accuracy of industry metrics, these outliers have been excluded from our computations. Additionally, normalization adjustments have been applied to eliminate any metrics that fall outside an acceptable range. These determinations of outliers and subsequent adjustments are made with professional judgment and without bias.

The ratios have been compiled for the year ended December 31, 2023.

■ Interpretation and computation of ratios and multiples



Return ratios

Return on equity measures the profitability of a company in relation to the shareholders' equity. It shows how much profit a company generates for each dollar of shareholders' equity. It is a key indicator of a company's efficiency in utilizing its equity capital to generate profits for its shareholders. Higher ROE values generally indicate better financial performance and effectiveness in using shareholders' investments.

Formula	Net income to common excluding extra items/ Average common equity	
1	Net income to common excluding extra items	= Revenue from Operations - Cost of Revenue +/- Other Operating Income/ Expense +/- Changes in Inventory +/- Interest Income/ Expense +/- Investment Income/ Expense +/- Other Non-Operating Income/ Expense - Depreciation and Amortization - Provision for Income Taxes +/- Unusual Items
2	Average common equity	= Average of opening and closing common equity
3	Common equity (book value)	= Common Stock and Add Paid in Capital + Retained Earnings + Treasury Stock and Other

Return on assets (ROA)

The return on assets formula is a financial ratio that measures a company's profitability in relation to its total assets. ROA shows how efficiently a company utilizes its assets to generate profits. It provides insight into the company's ability to generate earnings from its investments in assets. A higher ROA value generally indicates better financial performance, as the company is effectively using its assets to generate profits.

Formula	EBIT*(1- corporate tax rate)/ Average total assets	
1	EBIT	= Total Revenue - Cost of Revenue - Selling General & Administrative Expenses - Depreciation & Amortization - Other Operating Expense
2	Average total assets	= Average of opening and closing total assets
3	Total assets	= Total Receivables + Cash & Short-Term Investments + Net Property, Plant & Equipment + Other Intangibles + Inventory + Long-term Investments + Goodwill + Other Current Assets + Other Assets

Return on capital (ROC)

The return on capital is a financial metric that assesses a company's profitability and efficiency in generating returns from both debt and equity capital. In essence, ROC evaluates how effectively a company uses both borrowed funds (debt) and shareholders' investments (equity) to generate profits. This metric is helpful for understanding the overall performance of the company's capital structure. A higher ROC value generally indicates that the company is efficiently utilizing its capital to generate returns for its investors and creditors.

Formula	EBIT*(1- corporate tax rate)/ Average total capital	
1	EBIT	= Total Revenue - Cost of Revenue - Selling General & Administrative Expenses - Depreciation & Amortization - Other Operating Expense
2	Average total capital	= Average of opening and closing capital
3	Total capital (book value)	= Common equity + Total Debt + Preferred stock
4	Common equity	= Common Stock and Add Paid in Capital + Retained Earnings + Treasury Stock and Other
5	Total Debt	= Short-term Borrowings + Current Portion of Long-Term Debt + Current Portion of Leases + Long-Term Debt + Long-Term Leases

■ Debt ratios

Debt/Equity (D/E)

The debt-to-equity ratio is a financial metric that compares a company's total debt to its shareholders' equity. The D/E ratio indicates how much debt a company is using to finance its assets relative to the amount of value represented in shareholders' equity. A high D/E ratio suggests that the company relies more on debt financing, which can increase financial risk but may also lead to higher potential returns. On the other hand, a low D/E ratio indicates a more conservative financing structure, with less reliance on debt and potentially lower risk.

Formula	Total Debt/ Market capitalization	
1	Total Debt	= Short-term Borrowings + Current Portion of Long-Term Debt + Current Portion of Leases + Long-Term Debt + Long-Term Leases
2	Market capitalization	= No. of equity shares outstanding*Market price per share

Debt/ Total capital (D/C)

The debt-to-capital ratio is a financial metric that compares a company's total debt to its total capital, which includes both debt and equity. In essence, the D/C ratio measures the proportion of a company's capital that is financed through debt. It provides insights into the company's financial leverage and risk. A high D/C ratio indicates that a significant portion of the company's capital comes from debt, which can increase financial risk but may also offer higher potential returns. On the other hand, a low D/C ratio suggests a more conservative capital structure, with less reliance on debt financing and potentially lower risk.

Formula	Total Debt/ Market value of Invested Capital	
1	Total Debt	= Short-term Borrowings + Current Portion of Long-Term Debt + Current Portion of Leases + Long-Term Debt + Long-Term Leases
2	Market value of Invested Capital	= Market Capitalization + Preferred stock + Minority interest + Total Debt
3	Market capitalization	= No. of equity shares outstanding*Market price per share
4	Minority interest	Portion of equity in a non-wholly owned, consolidated subsidiary that is attributable to the minority owners.

Activity ratios

Days of sales (DSO)

The days of sales is a financial metric that measures the average number of days it takes for a company to collect revenue from its customers. This ratio is an activity ratio quantifying a firm's effectiveness in extending credit and in collecting debts. A lower number of days of sales indicates that the company is collecting payments more quickly, which is generally a positive sign of effective credit and collection policies. Conversely, a higher number of days of sales suggests that the company takes longer to collect payments, which may indicate potential issues with cash flow or credit policies. Reducing the days of sales can help improve a company's cash flow and overall financial performance.

Formula	= (Average accounts receivable/ Revenue) *Number of days in a period	
1	Average accounts receivable	= Average of opening and closing accounts receivable (adjusted for allowance for doubtful accounts receivable)

Days of inventory (DIO)

The day of inventory is a financial metric that measures the average number of days it takes for a company to sell its inventory. It helps to assess how efficiently a company manages its inventory. A lower number of days of inventory indicates that the company is selling its inventory more quickly, which is generally a positive sign as it suggests effective inventory management and turnover. On the other hand, a higher number of days of inventory implies that the company takes longer to sell its inventory, which may indicate overstocking or slow-moving products, potentially tying up capital and affecting profitability.

Formula	= (Average inventory/ Cost of Goods Sold) *Number of Days in a Period	
1	Average inventory	= Average of opening and closing inventory

Days of payables (DPO)

The days of payables is a financial metric that measures the average number of days it takes for a company to pay its suppliers and vendors. It helps to assess the efficiency of a company's accounts payable management. A higher number of days of payables indicates that the company takes longer to pay its suppliers, which may suggest favourable credit terms and better cash flow management. On the other hand, a lower number of days of payables may indicate that the company pays its suppliers more quickly, which could be an advantage in maintaining good supplier relationships and potentially securing early payment discounts.

Formula	= (Average accounts payable/ (Cost of Goods Sold - Opening inventory - Closing inventory)) *Number of Days in a Period	
1	Average accounts payable	= Average of opening and closing accounts payable

Growth ratios

The compound annual growth rate (CAGR) is the mean annual growth rate of an investment over a specified period longer than one year. It is calculated by dividing the investment value at the end by the beginning investment value, raising the result to the power of one divided by the period length. Subsequently one is subtracted to arrive at the CAGR.

We have presented the 3-year Revenue in our analysis.

3 year - Revenue CAGR

Formula	= (Total Revenue (Yr. 3)/ Total Revenue (Yr. 0)) ^ (1/3)-1
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Price multiples

Equity value multiples are used to arrive at an equity valuation for an entity after factoring leverage. A key assumption of any fundamental value technique is that the value of the security is driven by the fundamentals of the entity's underlying business.

Price/ Revenue

The price to revenue is a valuation ratio that compares a company's stock price to its revenues. It can be calculated either by dividing the company's market capitalization by its total revenue over a 12-month period, or on a per-share basis by dividing the stock price by revenue per share for a 12-month period. In our database, we have calculated it by dividing the market capitalization by total revenue.

Formula	= Market capitalization/ Total revenue	
1	Market capitalization	= No. of equity shares outstanding*Market price per share

Price/ Earnings (P/E) ratio

The price to earnings ratio is the ratio for valuing a company that measures its current share price relative to its per-share earnings. The ratio is calculated by dividing the current stock price by earnings per share.

Formula	= Price per share/ Earnings per share	
1	Earnings per share	= Net income to common excluding extra items/ Weighted Average Basic Shares Outstanding
2	Net income to common excluding extra items	= Revenue from Operations - Cost of Revenue +/- Other Operating Income/ Expense +/- Changes in Inventory +/- Interest Income/ Expense +/- Investment Income/ Expense +/- Other Non-Operating Income/ Expense - Depreciation and Amortization - Provision for Income Taxes +/- Unusual Items

Market/ Book

The market to book ratio is used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the book value per share.

Formula	= Price per share/ Book value per share	
1	Book value per share	= (Total common equity + Total minority interest) / Total no. of common shares outstanding
2	Common equity	= Common Stock and Add Paid in Capital + Retained Earnings + Treasury Stock and Other

Enterprise value (EV) multiples

The enterprise value is a measure of a company's total value, often used as a more comprehensive alternative to equity market capitalization. Enterprise value is calculated as the market capitalization plus debt, minority interest and preferred shares, minus total cash and cash equivalents.

An enterprise multiple is a ratio used to determine the value of a company. Some analysts prefer enterprise value multiples over equity value multiples as the former allows for direct comparison across firms, regardless of capital structure. The enterprise multiple looks at an entity as a potential acquirer would, taking into account the company's debt and not just the equity component as we observed while analysing the equity multiples.

EV/ Revenue

The EV/ Revenue gives investors a quantifiable metric of how much it costs to purchase the company's sales. This measure is an expansion of the price-to-sales (P/S) valuation, which uses market capitalization instead of enterprise value. It is calculated by dividing enterprise value by total revenue for the financial year.

Formula	= Total enterprise value/ Total Revenue	
1	Total enterprise value	= Market value of Invested Capital - Cash and cash equivalents
2	Market value of Invested Capital	= Market Capitalization + Preferred stock + Minority interest + Total Debt
3	Market capitalization	= No. of equity shares outstanding*Market price per share
4	Minority interest	Portion of equity in a non-wholly owned, consolidated subsidiary that is attributable to the minority owners.
5	Total Debt	= Short-term Borrowings + Current Portion of Long-Term Debt + Current Portion of Leases + Long-Term Debt + Long-Term Leases
6	Cash and cash equivalents	The total of cash, cash equivalents and short-term investments reported on the company's balance sheet. Includes cash, cash in hand, cash at bank, cash and cash equivalents, bank balances, short-term deposits, deposits. Any adjustments for surplus cash credit or restricted cash are handled through separate adjustments. Restricted cash is included here.

EV/ EBITDA

The EV/ EBITDA equals a company's enterprise value divided by earnings before interest, tax, depreciation, and amortization (EBITDA) for the financial year. It is a measure of the cost of a stock which is more frequently valid for comparisons across companies than the price-to-earnings ratio.

Formula	= Total enterprise value/ EBITDA	
1	Total enterprise value	As defined above

We have also presented Historical EV/Revenue multiples for periods FY-1, FY-2 and FY-3 and Historical EV/ EBITDA multiples for the periods FY-1 and FY-2 in our analysis.

Profitability ratios

A profitability ratio measures a company's performance. They highlight how effectively the profitability of a company is being managed within sights into the financial health and performance of the entity and provides a basis of comparison against other similarly situated companies.

Gross margin

The gross margin is a financial metric that measures the profitability of a company's core business operations. The gross margin represents the percentage of revenue that exceeds the direct costs of producing the goods or services sold by the company. A higher gross margin generally indicates that the company is generating more profit from each sale, which is a positive sign of operational efficiency and pricing strategy.

Formula	= Gross profit/ Revenue	
1	Gross profit	= Revenue from Operations - Cost of revenue
2	Cost of revenue	= Cost of Materials Consumed +/- Changes in Inventory

EBITDA margin

The EBITDA margin is a financial metric that assesses the operational profitability of a company. The EBITDA margin represents the percentage of total revenue that the company retains as EBITDA, which is a measure of its operating performance before accounting for non-operating expenses such as interest, taxes, depreciation, and amortization. A higher EBITDA margin typically indicates that the company's core operations are more profitable, without the influence of financing decisions or tax-related matters.

Formula	= EBITDA/ Revenue	
1	EBITDA	= Revenue from Operations - Cost of Revenue - Selling General & Administrative Expenses - Other Operating Expense
2	Cost of revenue	As defined above

Net profit margin

The net profit margin is a financial metric that measures the profitability of a company's overall operations. The net profit margin represents the percentage of total revenue that the company retains as net profit after deducting all expenses, including the cost of goods sold, operating expenses, interest, taxes, and other non-operating costs. A higher net profit margin generally indicates that the company is effectively controlling costs and operating efficiently, leading to higher profitability. On the other hand, a lower net profit margin may suggest that the company is facing challenges in controlling expenses or experiencing lower revenues.

Formula	= Net income to company/ Revenue	
1	Net income to company	= Revenue from Operations - Cost of Revenue - Other Operating Expense - Other Non-Operating Expense - Net Interest Expense - Income Tax Expense
2	Cost of revenue	As defined above

Liquidity ratios

Current ratio

The current ratio is a financial metric that measures a company's short-term liquidity and its ability to pay off its current liabilities using its current assets. In simple terms, the current ratio helps assess a company's ability to meet its short-term financial obligations. It compares the company's current assets, which are assets that are expected to be converted into cash within one year, to its current liabilities, which are debts and obligations due within the same period.

A current ratio above 1 indicates that the company has more current assets than current liabilities, suggesting that it is likely to be able to meet its short-term obligations. A current ratio below 1 may indicate that the company may face difficulties in paying off its short-term debts with its current assets alone, potentially indicating liquidity issues.

Formula	= Total current assets/ Total current liabilities	
1	Total current assets	= Cash & Short-Term Investments + Total Receivables + Inventory + Prepaid Expense + Other Current Assets
2	Total current liabilities	= Accounts Payable + Accrued Expense + Short-term Borrowings + Current Long-Term Debt and Leases + Other Current Liabilities

Quick ratio

The quick ratio, also known as the acid-test ratio, is a financial metric that assesses a company's short-term liquidity and ability to pay off its current liabilities without relying on the sale of inventory. In simple terms, the quick ratio measures how well a company can meet its immediate short-term obligations using its most liquid assets, excluding inventory. Inventory is excluded because it may take time to convert into cash, and in times of financial stress, it may not be easy to sell at its full value.

A quick ratio above 1 indicates that the company can cover its current liabilities with its quick assets, which typically include cash, cash equivalents, marketable securities, and accounts receivable. This is generally seen as a positive sign of good liquidity and financial health. On the other hand, a quick ratio below 1 suggests that the company may face difficulties in paying off its short-term obligations without relying on selling inventory.

Formula	= Current assets/ Total current liabilities	
1	Current assets	= Cash & Short-Term Investments + Accounts Receivables + Other Receivables
2	Total current liabilities	As defined above

■ Capital expenditure and depreciation ratios

Capex/ Revenue

Capital expenditure to revenue is a financial metric that measures how much a company is investing in capital assets relative to its generated revenue. Capital assets are long-term, significant investments such as property, plants, and equipment (PPE). The metric is generally expressed as a percentage and provides an indication of a company's investment strategy. A high ratio suggests that a company is heavily investing in its future growth or maintaining its existing assets, while a low ratio suggests the opposite. However, whether a high or low ratio is 'good' or 'bad' can depend heavily on the industry, the company's stage of growth, and other factors.

Formula	= Capital expenditure/ Revenue	
1	Capital expenditure	Capital expenditure include acquiring fixed assets, upgrading existing assets, capitalized research and development ("R&D"), investments in infrastructure, software and licenses, expansion projects, and significant maintenance and repairs of fixed assets.

D&A / Revenue

Depreciation & amortization to revenue is a financial metric that measures the proportion of a company's revenue that is allocated to depreciating or amortizing its fixed assets and intangible assets, respectively. A high ratio suggests that a large proportion of a company's revenue is being used to account for the decrease in value of its assets, while a low ratio suggests the opposite. This can give an indication of a company's capital intensity, the age of its assets, and its strategy around investing in assets. The interpretation of this ratio can depend on the industry and the nature of the company's assets.

Formula	= Total depreciation and amortization expense/ Revenue	
1	Total depreciation and amortization expense	= Depreciation on Right of Use Assets + Depreciation and Amortization
2	Depreciation and amortization	Depreciation and amortization include the allocation of the cost of tangible assets (depreciation) and intangible assets (amortization) over their respective useful lives.

D&A / Capex

Depreciation & amortization to capital expenditure is a financial metric that measures the proportion of a company's capital expenditures that are allocated to depreciating or amortizing its fixed assets and intangible assets, respectively. A high ratio suggests that a large proportion of a company's capital expenditures is being used to account for the decrease in value of its assets, while a low ratio suggests the opposite. This can give an indication of how quickly a company's assets are depreciating or amortizing relative to how much it is investing in new assets.

Formula	= Total depreciation & amortization expense / Capital expenditure	
1	Total depreciation and amortization expense	As defined above
2	Capital expenditure	As defined above

Working capital ratios

DFWC/ Revenue

Debt-free working capital is a measure that represents the excess of current assets over current liabilities, excluding any interest-bearing debt. It provides insight into the company's ability to cover its short-term obligations without considering the impact of debt. This metric provides insights into the company's liquidity position and its capacity to handle short-term financial obligations using its operational cash flow and non-debt-related assets. A higher percentage may indicate a strong ability to cover short-term obligations without relying on debt, while a lower percentage may suggest potential liquidity risks.

Formula	= DFWC / Revenue	
1	DFWC	= Total current assets - Total current liabilities + Short-term borrowings + Current Portion of Long-Term Debt + Current Portion of Leases
2	Total current assets	= Cash & Short-Term Investments + Total Receivables + Inventory + Prepaid Expense + Other Current Assets
3	Total current liabilities	= Accounts Payable + Accrued Expense + Short-term Borrowings + Current Long-Term Debt and Leases + Other Current Liabilities

DFCFWC/ Revenue

Debt-free cash-free working capital is a measure that represents the excess of current assets over current liabilities, excluding any interest-bearing debt and cash. It provides a snapshot of the company's ability to cover its short-term obligations without relying on borrowed funds or cash reserves. This metric provides insights into the company's liquidity position and its capacity to handle short-term financial obligations using its operational cash flow and non-debt-related assets. A higher percentage may indicate a strong ability to cover short-term obligations without relying on debt or cash reserves, while a lower percentage may suggest potential liquidity risks.

Formula	= DFCFWC/ Revenue	
1	DFCFWC	= Total current assets - Total current liabilities + Short-term borrowings + Current Portion of Long-Term Debt + Current Portion of Leases - Cash & Short-Term Investments
2	Total current assets	As defined above
3	Total current liabilities	As defined above

Beta

Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. Beta is used in the capital asset pricing model (CAPM) to calculate the expected return of an asset.

The S&P 500 index is considered a benchmark for the purpose of computing beta.

The S&P 500 index is the broad-based stock market index covering a large portion of the overall market in terms of equity capitalization. It represents the weighted average of 500 U.S. company stocks and is a free-float market capitalization.

1-year beta

It is the slope of the daily regression of change in stock price relative to S&P 500 for the past 1 year.

3-year beta

It is the slope of the daily regression of change in stock price relative to S&P 500 for the past 3 years.

5-year beta

It is the slope of the daily regression of change in stock price relative to S&P 500 for the past 5 years.

Cost of equity ("Ke")

Risk-free rate (“Rf”)

The risk-free rate is the rate available on instruments considered to have virtually no possibility of default, such as Treasury bill. The yield on the 20-year T-Bond as of December 31, 2023, i.e., 4.2% has been considered as the risk-free rate.

Equity risk premium (“ERP”)

The equity risk premium is the additional return that investors expect to earn over the long-term treasury securities to compensate for the additional risk, or the degree of uncertainty, that the expected future equity returns will not be realized. It is a forward-looking concept in that the discount rate should reflect what investors think the risk premium will be going forward. The premium represents large company total returns over long-term treasury bond returns. The data on equity risk premiums provided by the Kroll Cost of Capital Navigator is reliable.

According to the Kroll Cost of Capital Navigator, the historical long-horizon equity risk premium is the arithmetic average total return (i.e., income plus price appreciation) for the S&P 500 less the average income returns of 20-year Treasury Bonds, from 1926 to the present. The period since 1926 is considered to be relevant because of the number of different economic shocks that occurred during that time. The resulting historical long-term equity risk premium used for our analysis is 7.2%.

Cost of equity

The cost of equity based on the CAPM is the expected return required by investors for holding a company's stock. It represents the rate of return that compensates investors for the risk they take by investing in the company's equity. CAPM calculates the cost of equity by considering the risk-free rate of return, the stock's beta (a measure of its volatility compared to the overall market), and the market risk premium (the additional return investors expect for taking on market risk). Ultimately, the cost of equity reflects the minimum return a company must generate on its projects to maintain its stock's value and attract investors.

Formula	= Rf + (ERP * β)	
1	Rf	As defined above
1	ERP	As defined above
3	Beta (“β”)	The beta considered for computing Ke is the 5-year beta, which is the slope of the daily regression of change in stock relative to S&P 500 for the past 5 years.

Industry specific ratios

Some industries have unique characteristics that require analysis beyond the conventional ratios. The companies falling under such industries have been analysed using industry specific ratios.

BANKS

Return ratios

Return on assets ("ROA")

The return on assets for banks is a financial metric used to evaluate a bank's profitability and efficiency in generating earnings from its assets. The ROA ratio indicates how effectively the bank is utilizing its assets to generate profits. A higher ROA suggests that the bank is more efficient in using its assets to earn income, while a lower ROA may indicate that the bank's assets are not generating sufficient earnings.

Formula	= (Earnings from Continuing Operations/ Average total assets) * 100	
1	Earnings from Continuing Operations	= Total Revenue - Other Operating Expenses - Other Non-Operating Expenses - Income Tax Expense +/- Unusual items
2	Average total assets	= Average of opening and closing total assets
3	Total assets	= Cash and Equivalents + Total Investments + Net Loans + Net Property, Plant & Equipment + Goodwill + Other Current and Non-current Assets

Earning asset yield

The earning asset yield for banks is a financial metric that measures the rate of return or yield generated by a bank's earning assets. The earning asset yield ratio provides insight into how effectively the bank is generating interest income from its earning assets. A higher earning asset yield indicates that the bank's earning assets are generating a higher rate of return, which is generally favourable for the bank's profitability. On the other hand, a lower earning asset yield may suggest that the bank's earning assets are not generating as much income relative to their value. This metric is valuable for assessing the bank's ability to deploy its assets to generate interest income and can be used to compare the performance of different banks within the industry.

Formula	= (Interest Income / Average Interest-Earning Assets) * 100	
1	Interest income	Total interest income earned from loans, investments, and interest-bearing securities.
2	Average interest-earning assets	Average of opening and closing interest-earning assets.
3	Interest-earning assets	Loans, investments, and interest-bearing securities which include debt and equity securities, loans and leases, balances from other depositories, federal funds sold, trading accounts.

Gross loan/ Total deposits

The gross loan/ total deposits for banks is a financial metric that measures the proportion of a bank's total loans to its total customer deposits. This ratio is essential for assessing the bank's loan-to-deposit ratio, which indicates the bank's reliance on customer deposits to fund its lending activities. A higher ratio suggests that the bank is lending a significant portion of its customer deposits, which may increase the risk of liquidity issues if a large number of depositors simultaneously request withdrawals. Conversely, a lower ratio may indicate that the bank is more conservative in its lending practices and maintains a higher proportion of customer deposits as reserves or invests in other liquid assets. However, an excessively low ratio might imply that the bank is not effectively utilizing its customer deposits to generate earnings through lending.

Formula	= (Gross loans/ Total deposits) * 100	
1	Gross loans	This represents the aggregate value of all loans extended by the bank to its customers, including various types of loans such as mortgages, personal loans, business loans, etc.
2	Total deposits	= Interest Bearing Deposits + Non-Interest-Bearing Deposits

Profitability ratios

Net interest margin (NIM)

The net interest margin ratio represents the net interest income as a percentage of average total interest-earning assets. It indicates the net yield on interest-earning assets. In simpler terms, it calculates the profit margin of a bank's interest-earning activities, indicating how efficiently a bank can generate income from its interest-earning assets compared to the cost of funds (interest expenses) it pays to depositors and lenders. A higher NIM typically signifies that the bank is earning more from its interest-earning activities relative to its costs, which is generally a positive sign for its profitability. On the other hand, a lower NIM might indicate that the bank is facing challenges in generating sufficient income to cover its interest expenses, potentially impacting its profitability.

Formula	= (Net Interest Income/ Average Interest-Earning Assets) * 100	
1	Net Interest Income	Net Interest Income (NII) represents the difference between the interest income earned on loans, investments, and other interest-earning assets and the interest expenses paid on deposits and other interest-bearing liabilities.
2	Average interest-earning assets	Average of opening and closing interest-earning assets
3	Interest-earning assets	As defined above

Capital adequacy ratios

Tier 1 capital

Tier 1 capital is a key financial metric used by regulators and analysts to assess a bank's financial strength and ability to absorb losses. It represents the core capital of a bank, mainly consisting of equity capital and disclosed reserves, which provide a strong buffer against unexpected losses. Tier 1 capital is a crucial measure of a bank's financial stability and its ability to maintain solvency under adverse economic conditions. Regulators often require banks to maintain a minimum Tier 1 capital ratio, which is calculated by dividing the Tier 1 capital by the bank's risk-weighted assets. This ratio ensures that banks have sufficient capital to withstand financial stress and protect depositors and other stakeholders. Higher Tier 1 capital ratios indicate a more robust and resilient bank, while lower ratios may suggest potential vulnerability to financial shocks.

Formula	= ((Common Equity Tier 1 (CET1) Capital + Additional Tier 1 (AT1) Capital)/ Total Risk-Weighted Assets) *100	
1	Common Equity Tier 1 (CET1) Capital	This component includes the bank's common equity, which represents the most basic form of ownership interest in the bank. It includes common shares, retained earnings, and other comprehensive income but excludes any other capital instruments.
2	Additional Tier 1 (AT1) Capital	This component includes non-common equity capital instruments, such as preferred shares or hybrid instruments, which have features that allow them to absorb losses and strengthen the bank's capital position.
3	Total Risk-Weighted Assets	This refers to the total value of a bank's assets, weighted according to their risk levels. Different assets carry different risk weights based on their credit risk, market risk, and operational risk. The risk-weights are assigned by regulatory guidelines.

Tier 2 capital

Tier 2 capital is another important financial metric used by regulators and analysts to evaluate a bank's financial strength and ability to absorb losses. It represents the supplementary capital of a bank, which provides an additional layer of protection beyond Tier 1 capital. Maintaining sufficient Tier 2 capital is essential for a bank to comply with regulatory requirements and safeguard its financial stability in times of economic stress. A strong Tier 2 capital position indicates that the bank has an additional layer of protection to weather adverse economic conditions and maintain solvency.

Formula	= ((Tier 2 Debt + Additional Tier 1 (AT1) Capital Disallowed from Tier 1) / Total Risk-Weighted Assets) *100	
1	Tier 2 Debt	This component includes subordinated debt and other instruments that have specific features to absorb losses and enhance the bank's capital position. Subordinated debt holders are paid only after other senior debt holders and depositors, making it riskier and qualifying it as supplementary capital.
2	Additional Tier 1 (AT1) Capital Disallowed from Tier 1	Some elements of Additional Tier 1 capital that are included in the Tier 1 capital calculation may not be counted again in the Tier 2 capital calculation. These elements are disallowed to avoid double-counting.
3	Total Risk-Weighted Assets	As defined above

Total capital ratio

The total capital ratio is a critical financial metric used by regulators and analysts to assess a bank's overall financial strength and capital adequacy. It indicates the proportion of a bank's total capital in relation to its risk-weighted assets. The Total Capital Ratio is a critical measure of a bank's capital adequacy as it shows how well the bank is capitalized to handle potential losses and unexpected financial shocks. Regulators set minimum capital adequacy requirements, which banks must meet to ensure financial stability and protect against insolvency. A higher Total Capital Ratio indicates that the bank has a stronger capital position relative to its risk exposures, providing greater resilience in turbulent economic conditions. Conversely, a lower Total Capital Ratio might indicate that the bank's capital is relatively weaker, which could signal potential vulnerabilities in its ability to withstand financial stress.

Formula	= Total Capital Ratio = (Total Capital / Total Risk-Weighted Assets) *100	
1	Total Capital	= Tier 1 capital (CET1 + AT1) + Tier 2 capital (subordinated debt and certain AT1 disallowed from Tier 1)
2	Total Risk-Weighted Assets	As defined above

Price multiples

Price/ LTM EPS ratio

The Price to Last twelve months (“LTM”) EPS ratio is the ratio for valuing a company that measures its current share price relative to its per-share earnings. The ratio is calculated by dividing the current stock price by earnings per share for the last twelve months.

Formula	= Price per share/ LTM Earnings per share	
1	LTM Earnings per share	= LTM Net income to common excluding extra items/ Weighted Average Basic Shares Outstanding
2	LTM Net income to common excl. extra items	= Revenue from Operations - Cost of Revenue +/- Other Operating Income/ Expense +/- Other Non-Operating Income/ Expense - Depreciation and Amortization - Provision for Income Taxes +/- Unusual Items

Price/ Book

The price to book ratio is used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the book value per share.

Formula	= Price per share/ Book value per share	
1	Book value per share	= (Total common equity + Total minority interest) / Total no. of common shares outstanding
2	Common equity	= Common Stock and Add Paid in Capital + Retained Earnings + Treasury Stock and Other

NPA/NPL ratios

Gross NPA/ Total assets

The Gross Non-Performing Assets (NPA) to Total Assets is a financial metric for banks that measures the quality of a bank's assets, specifically how much of its total assets are non-performing. A high ratio indicates that a large proportion of a bank's assets are non-performing, suggesting a higher level of credit risk and potential for loss. Conversely, a low ratio indicates a lower level of credit risk, suggesting that the bank has a healthier loan portfolio.

Formula	= (Gross Non-Performing Assets / Total Assets)	
1	Gross Non-Performing assets	Gross Non-Performing Assets refer to the sum of all loan assets that are classified as non-performing as per the bank's asset classification norms. NPAs are loans where the borrower has defaulted or is in arrears, typically classified as such when loan payments have not been made for 90 days or more.
2	Total assets	<ul style="list-style-type: none"> = Cash and Equivalents + Total Investments + Net Loans + Net Property, Plant & Equipment + Goodwill + Other Current and Non-current Assets

Gross NPA

Gross Non-Performing Assets is a measure used in banking to indicate the value of loans where the borrowers have defaulted or are late on their payments. These are typically classified as such when loan payments have not been made for 90 days or more, but the exact classification can vary by country and by bank. Gross NPA provides an indication of the quality of a bank's loan portfolio. A high level of Gross NPAs suggests that a large number of loans in the bank's portfolio are not being repaid, which could potentially lead to significant losses for the bank. It also indicates that the bank might have been less diligent in its lending practices. Conversely, a low level of Gross NPAs suggests that most of the bank's loans are being repaid as scheduled.

Formula	= Sum of all Non-Performing Loans/ Gross loans	
1	Non- Performing loan	'A Non-Performing Loan is a sum of borrowed money upon which the debtor has not made the scheduled payments for a specified period (usually 90 days for commercial banking loans).
2	Gross loans	This represents the aggregate value of all loans extended by the bank to its customers, including various types of loans such as mortgages, personal loans, business loans, etc.

Net NPA

Net Non-Performing Assets for a bank refers to the value of non-performing loans that are not covered by provisions or reserves. In other words, it is the portion of defaulted loans that are potentially a total loss for the bank. Net NPA provides an indication of the potential losses the bank faces from defaulted loans, after taking into account the funds it has set aside to cover those losses. A high level of Net NPAs suggests that a bank faces potentially significant losses and might have been less diligent in its lending practices or its provisioning. Conversely, a low level of Net NPAs suggests that the bank has either a healthy loan portfolio or has made sufficient provisions to cover potential losses.

Formula	= (Gross NPA - Provisions)/ Gross loans	
1	Gross NPA	Gross NPA is the sum of all loan assets that are classified as non-performing as per the bank's asset classification norms.
2	Provisions	Provisions are the funds that the bank sets aside to cover potential losses from non-performing loans.
3	Gross loans	As defined above

Beta

Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. Beta is used in the capital asset pricing model (CAPM) to calculate the expected return of an asset.

The S&P 500 index is considered a benchmark for the purpose of computing beta.

The S&P 500 index is a broad-based stock market index for the U.S. equity market. It represents the weighted average of 500 U.S. company stocks and is a free-float market capitalization.

1-year beta

It is the slope of the daily regression of change in stock relative to S&P 500 for the past 1 year.

3-year beta

It is the slope of the daily regression of change in stock relative to S&P 500 for the past 3 years.

5-year beta

It is the slope of the daily regression of change in stock relative to S&P 500 for the past 5 years.

■ Glossary of Acronyms

The risk-free rate is the rate available on instruments considered to have virtually no possibility of default, such as Treasury bill. The yield on the 20-year T-Bond as of December 31, 2023, i.e., 4.20% has been considered as the risk-free rate.

Term	Full Forms
AP Turnover	Accounts Payable Turnover
AR Turnover	Accounts Receivables Turnover
CAGR	Compound Annual Growth Rate
Capex	Capital Expenditure
Curr. Port. of LT	Current Portion of Long term Debt
Debt	Current Year
CY	Depreciation and Amortisation
D&A	Debt Free Cash Free Working Capital
DFCFWC	Debt Free Working Capital
DFWC	Earnings Before Interest and Taxes
EBIT	Earnings Before Interest, Taxes, Depreciation, and Amortization
EBITDA	Earnings Before Tax
EBT	Earnings Per Share
EPS	"Enterprise
EV	Value"
LY	Last Year
MVIC	Market Value of Invested Capital
N/A	Not Applicable
N/M	Not Material
NPA	Non Performing Assets
NPL	Non Performing Loans
P/E	Price-Earnings Ratio

■ Sources of Information

Sr No.	Source
1	S&P Capital IQ Pro Database
2	ERP from Kroll Cost of Capital Navigator
3	www.treasury.gov
4	Companies Financial Statements
5	Analyst Research Reports

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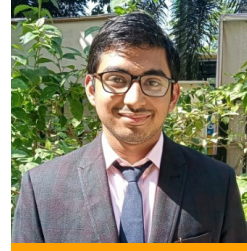
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USA

Atlanta

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