

Industry Multiples of China

December 2024

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Foreword



Ricky Lee

Managing Director

Valuation Advisory Services

Dear Readers,

This report offers an analysis of key trading metrics across the industrial sectors of the Chinese economy as of 30th September, 2024. In the first three quarters of the year, China's economy grew 4.8%, well on its way to meeting the annual target of 5%. While the Chinese economy has encountered strong economic headwinds – an unsettled real estate market, weak domestic demand and international trade friction – throughout the course of the year, the rate of growth nonetheless compares positively against other major global economic markets with a 2.8% increase forecast for the US, and anaemic rises of 0.9% and 0.8% predicted for Japan and the eurozone respectively.

At the end of the third quarter, the Shanghai Composite Stock Market Index, experienced a significant surge, rising more than 8% in one day to reach 3,336 points, significantly higher than the 2,962 points it began the year with. The MSCI China Index and Hong Kong Hang Seng Index also enjoyed significant gains of 19% and 25% respectively since the start of the year. The strong performance of China's capital markets came in response to a package of economic stimulus, announced in late September. The stock market has since undergone a correction due to concerns about the prospect of tariffs on exports to the US.

At the time our research was conducted, the impact of the stimulus measures had yet to feed through into the real economy, although we could begin to see reasons for optimism across a number of sectors, including Energy, Healthcare, Information Technology and Communications Services.

Foreword (cont'd)



Ricky Lee Managing Director Valuation Advisory Services

We hope you will use this report to get a broad sense of the range of trading multiples for major industries in China and stay ahead on valuations with Kroll. Readers should seek professional assistance and perform detailed valuation analysis before applying multiples on specific valuation subjects. Kroll has global resources and local expertise to assist clients in meeting their valuation needs, including but not limited to the following areas:

- Pre-IPO ESOP pricing or restructuring of China-based IPO candidates planning to go public in Hong Kong or the U.S.
- Fair-value measurement of equity investment in private companies in compliance with IFRS 9 and SFC's New Fund Manager Code of Conduct
- Indicators of potential impairment in the current fiscal year-end and whether further robust independent valuation analysis may be needed
- Corporate transactions of Hong Kong-listed companies, in accordance with corporate governance best practices

Energy

As of September 30, 2024

In China's energy sector, trading multiples increased from a low of 6.1x in 2022 – when the sector was battered globally by supply issues and soaring costs – to a healthier 10.5x in 2024. The sector shrugged off challenges, such as increased competition and cuts to subsidies, to enjoy strong growth thanks to high demand, technological advancements and government support for green energy. In 2023, clean energy investments surged by 40% to RMB 6.3 trillion, powering growth through 2024 and supporting China's climate goals.

Renewables now dominate new energy projects in China, highlighting the country's shift towards clean energy and underlining its global influence in the field. This entrepreneurial energy has yet to fully impact the Utilities sector – P/E multiples have remained relatively stable in recent years, fluctuating between 12x and 15x. Utilities revenue and net growth increased, albeit at a more moderate pace than in 2023. We should hope to see an uplift here in the coming years as these projects come to fruition.

Technology

As of September 30, 2024

China today is renowned for its technological prowess as a world leader in fields as diverse as 5G telecom networks, lithium-ion batteries, and drones. We notice now a more supportive and favourable regulatory environment taking shape – to guard against trade restrictions, the government is encouraging greater, national self-sufficiency in key technologies, which bodes well for the sector's prospects.

In the first months of 2024, IT traded at a P/E multiple of 35.5x (vs 32.4x Sept 2023) and Communications Services at 22.4x (vs 22.7x Sept 2023). There were signs of the sectors recovering some of their vitality as revenues grew (by 4.8% in Communications Services and 3.8% in IT) although this didn't translate into more income.

Higher revenues with lower incomes to some degree reflect the current cycle of investment, as China's technology companies seek to capitalise on the potential of generative AI. Research shows that China's Al sector, with more than 4,500 Al companies, is now worth CNY 600 billion, while the nation's massed computing power ranks second globally.

Healthcare

As of September 30, 2024

Turning to healthcare, the pandemic drove a spike in Healthcare multiples with the P/E ratio surging to 50.6x in 2021. Valuations in the sector have stabilised since then and the sector traded this year with a P/E multiple of 22.5x. As in Information Technology and Communications Services, there are promising indicators on the horizon for healthcare.

China's "Healthy China 2030" and "14th Five Year Plan for the Development of the Bioeconomy" focus on public health, healthcare insurance, traditional Chinese medicine, biotechnology, and market policies. As a result, investments in disease prevention and Alenhanced patient care are expected to grow, driving the healthcare market from USD 0.55 billion in 2022 to USD 11.91 billion by 2030 (CAGR of 46.72%).

Real estate

As of September 30, 2024

China's real estate market has long been central to the fortunes of the wider economy. Real estate sector net income fell in 2024 by 64.6% after a drop of 48.5% in the previous year.

Amid the downturn, the quality of the underlying assets might be of more interest for investors. Thus, we decided to look at the trend in P/B ratios rather than P/E, given the significant drop in earnings. The consolidated price to book ratio for the sector in the first nine months of 2024 was 0.9x – pricing market valuations lower than the sector's constituent assets could indicate that the sector's downward trend is flattening out.

To shore up the sector, the Chinese government has introduced measures like easing firsttime homebuyer restrictions, lowering down payment requirements, and reducing minimum mortgage rates, alongside buying unsold properties for affordable housing.

Real estate (cont'd)

As of September 30, 2024

It's unclear as yet whether such interventions will change market dynamics, or whether further growth strategies and regulatory reform will be required. The long-term outlook for Real Estate therefore remains uncertain.

And stresses in Real Estate feed into Financial Services, which is struggling under the weight of USD 1 trillion in bad property loans. The entire financial sector is currently trading at the value of its collective assets. Banks are managing bad debt through asset disposals, writeoffs, and selling loans to state-backed investment vehicles, but this process squeezes profitability.

The sector's future stability hinges on reducing dependence on debt-driven growth and increasing domestic consumption to prop up economic expansion.

Consumer

As of September 30, 2024

While China's efforts to stimulate domestic consumption have shown some positive results, the transformation of the economy towards a consumption-driven model remains a challenge.

Trading P/E multiples fell in both Consumer Staples (from 24.8x to 21.6x) and Consumer Discretionary (from 21.9% to 18.9%). In Consumer Discretionary, growth of net income slowed to 1.4% in 2024 (vs 142.5% in 2023). Net income growth also slackened in Consumer Staples but still maintained a respectable increase of 9.2% (vs 26.7% in 2023).

Looking beyond the raw data, we see a mixed picture for consumers in China – consumer behaviour varies across demographics and regions, with Millennials in tier-3 cities showing increased confidence due to lower living costs and better job security, while overall consumers prioritise experiences and personal joy despite economic uncertainty.

Retail sales grew by 3.7% in the first half of the year but issues like weak consumer sentiment and the property slump may take 12-18 months to improve, though pockets of consumer confidence and growth remain.

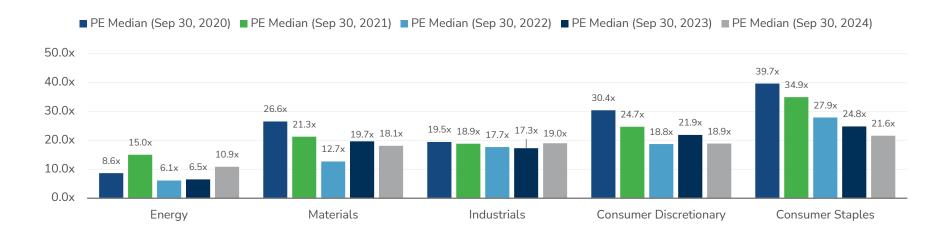
Industrials

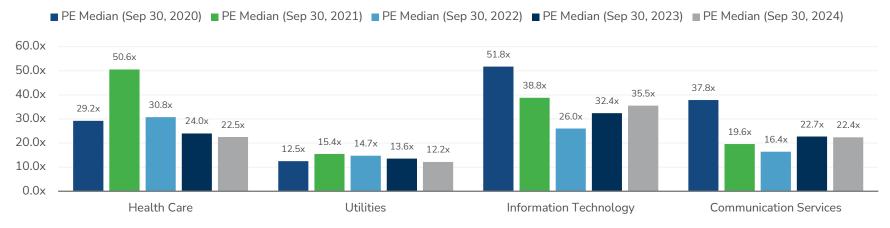
As of September 30, 2024

The Industrials sector traded at a P/E earnings ratio of 19.0x, broadly consistent with what we have seen in recent years and remaining relatively flat over a five-year period. Multiples in Materials have been more volatile but settled this year at 18.1x. Both sectors experienced low single digit revenue growth although Materials enjoyed a 12.7% increase in income – this improved profitability can be attributed to the falling costs of the commodities used in production.

Trading Multiples Over Time

(Including Outliers)

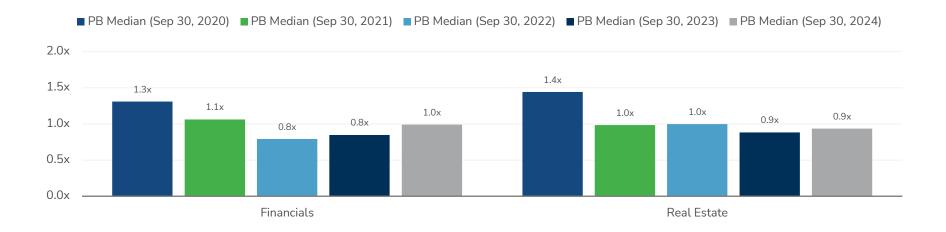




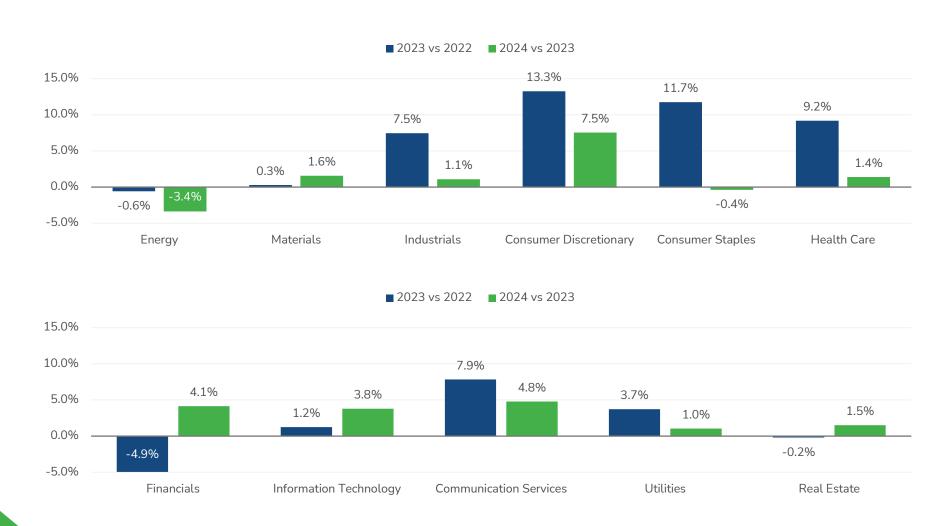
Note: Median multiples refer to P/B for Financials and Real Estate, and P/E for the remaining sectors.

Trading Multiples Over Time

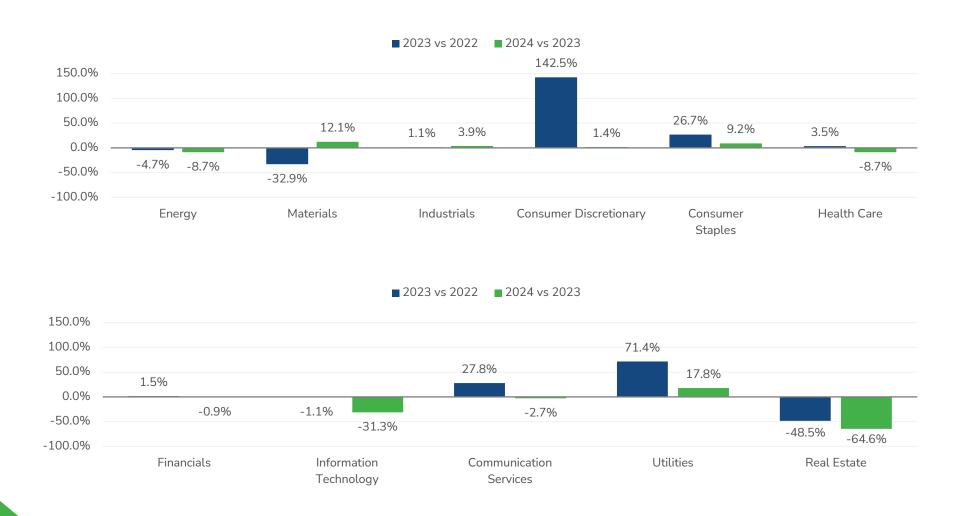
(Including Outliers)



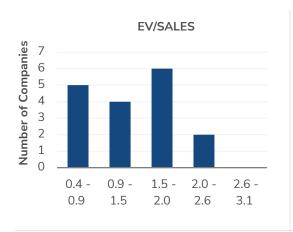
Revenue Percentage Change Over Time

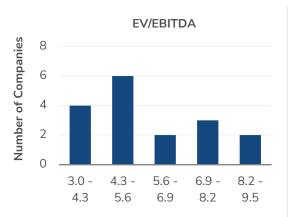


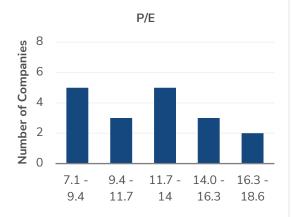
Net Income Percentage Change Over Time

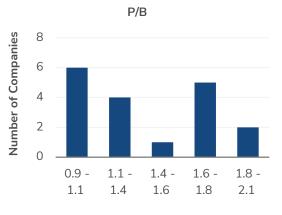


Energy



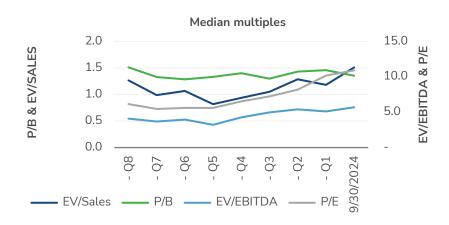




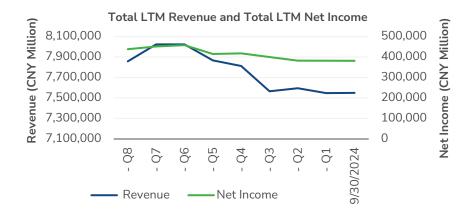


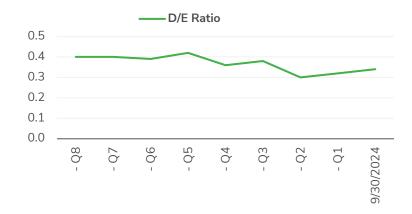
	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	19	19	19	19
Number of Outliers	1	2	1	1
Negative Multiples or Multiple Errors				
High	3.1x	9.5x	18.6x	2.1x
Mean	1.4x	5.7x	12.1x	1.4x
Median	1.3x	5.2x	13.0x	1.4x
Low	0.4x	3.0x	7.1x	0.9x
Low Quartile	0.9x	4.5x	9.2x	1.0x
Upper Quartile	1.9x	7.0x	14.0x	1.8x

Energy (cont'd)

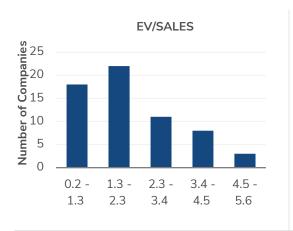


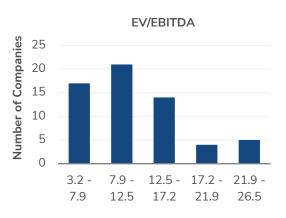


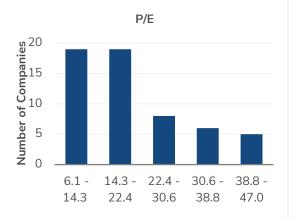


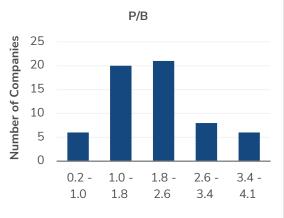


Materials



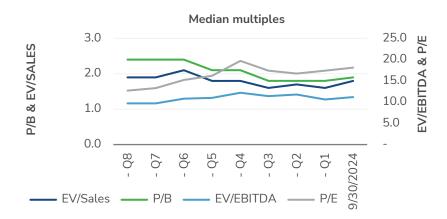




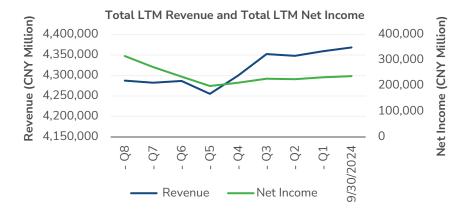


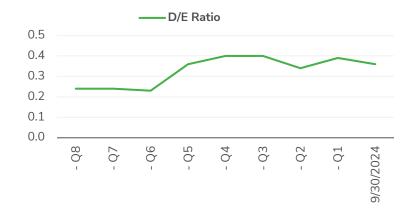
EV/ Sales	EV/ EBITDA	P/E	P/B
66	66	66	66
4	5	9	4
5.6x	26.5x	47.0x	4.1x
2.1x	11.7x	21.1x	2.0x
1.7x	10.6x	17.5x	1.9x
0.2x	3.2x	6.1x	0.2x
1.1x	7.4x	13.6x	1.5x
2.8x	13.9x	25.4x	2.5x
	5.6x 2.1x 1.7x 0.2x 1.1x	Sales EBITDA 66 66 4 5 5.6x 26.5x 2.1x 11.7x 1.7x 10.6x 0.2x 3.2x 1.1x 7.4x	Sales EBITDA P/E 66 66 66 4 5 9 5.6x 26.5x 47.0x 2.1x 11.7x 21.1x 1.7x 10.6x 17.5x 0.2x 3.2x 6.1x 1.1x 7.4x 13.6x

Materials (cont'd)

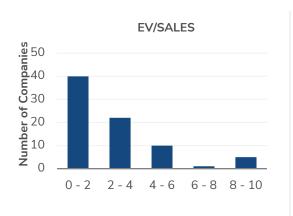


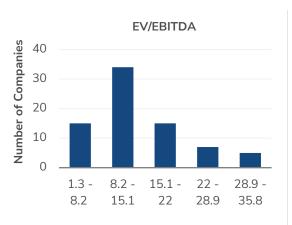


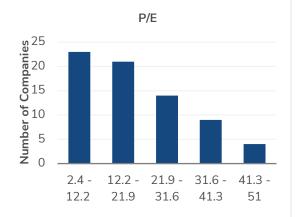


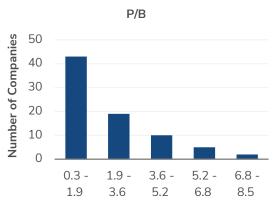


Industrials





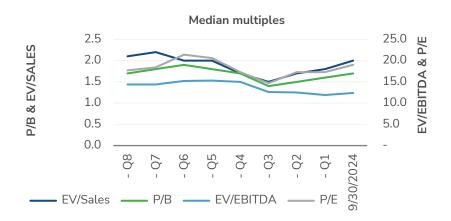




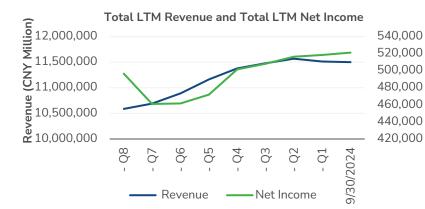
	=> //	=> //		
	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	80	80	80	80
Number of Outliers	2	4	9	1
Negative Multiples or Multiple Errors				
High	10.0x	35.8x	51.0x	8.5x
Mean	2.6x	14.1x	20.0x	2.4x
Median	1.9x	12.3x	17.6x	1.7x
Low	0.0x	1.3x	2.4x	0.3x
Low Quartile	0.9x	9.1x	10.7x	1.1x
Upper Quartile	3.7x	19.2x	26.3x	3.2x

Industrials (cont'd)

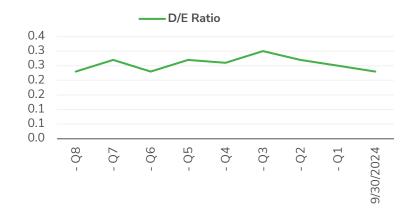
As of September 30, 2024



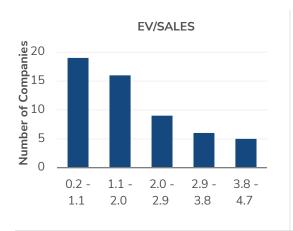


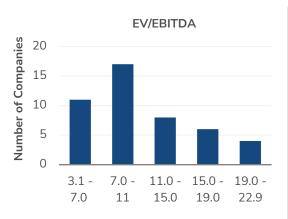


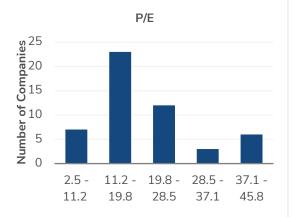
Million)

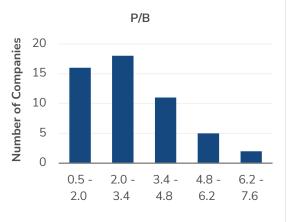


Consumer Discretionary



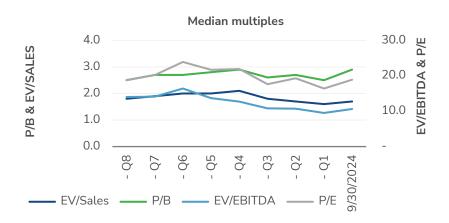




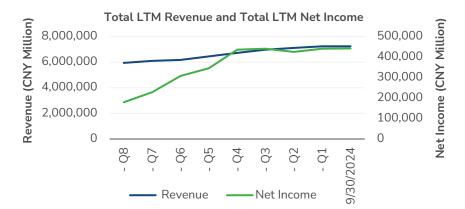


	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	58	58	58	58
Number of Outliers	3	12	7	5
Negative Multiples or Multiple Errors				
High	4.7×	22.9x	45.8x	7.6x
Mean	1.9x	11.1x	20.2x	3.1x
Median	1.7x	10.2x	18.6x	2.8x
Low	0.2x	3.1x	2.5x	0.5x
Low Quartile	0.9x	7.1x	13.8x	1.8x
Upper Quartile	2.7x	13.7x	24.7x	4.2x

Consumer Discretionary (cont'd)

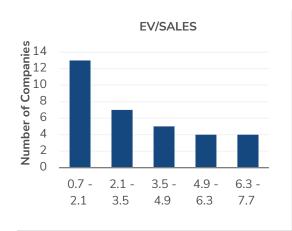


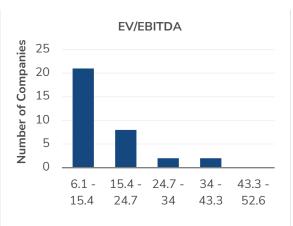


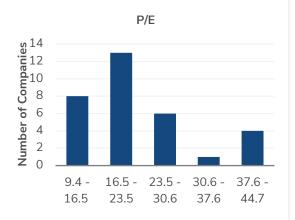


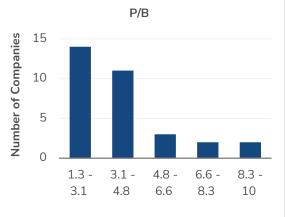


Consumer Staples



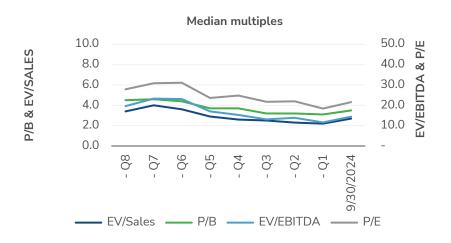


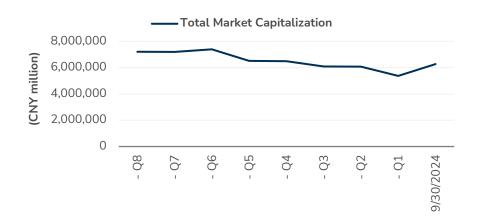


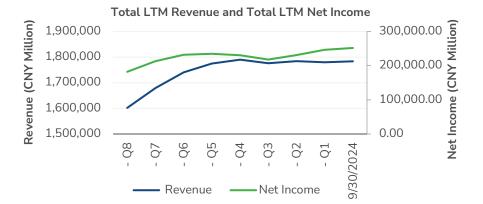


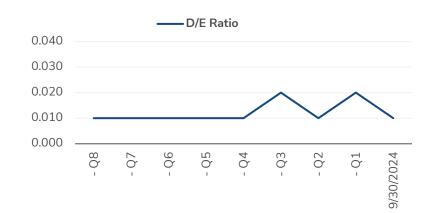
	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	36	36	36	36
Number of Outliers	3	2	4	3
Negative Multiples or Multiple Errors				
High	7.7×	52.6x	44.7x	10.0x
Mean	3.2x	16.9x	22.9x	4.0x
Median	2.5x	14.0x	20.0x	3.4x
Low	0.7×	6.1x	9.4x	1.3x
Low Quartile	1.6x	10.5x	16.7x	2.2x
Upper Quartile	4.3x	18.8x	25.1x	4.6x

Consumer Staples (cont'd)

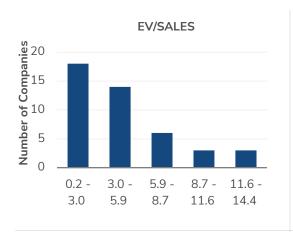


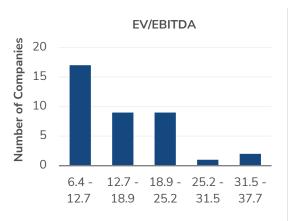


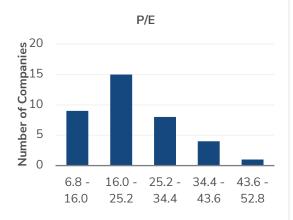


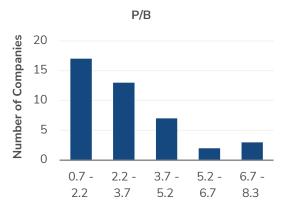


Healthcare



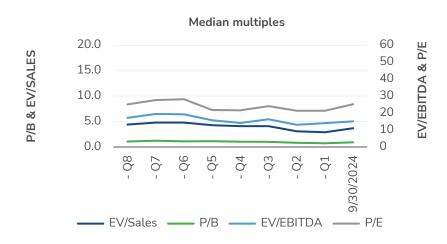


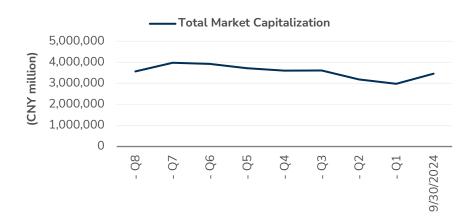


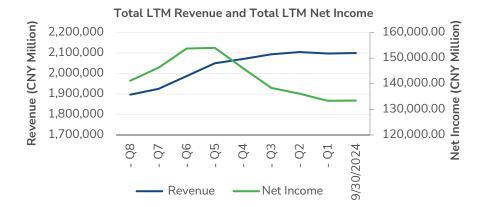


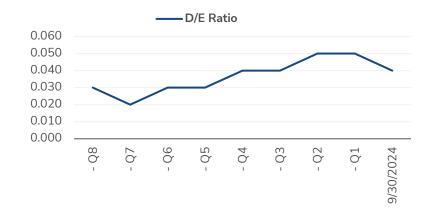
	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	47	47	47	47
Number of Outliers	3	9	9	5
Negative Multiples or Multiple Errors				
High	14.4x	37.7x	52.8x	8.3x
Mean	4.5x	15.3x	23.5x	3.0x
Median	3.7x	13.8x	23.5x	2.7x
Low	0.2x	6.4x	6.8x	0.7x
Low Quartile	2.1x	9.5x	16.7x	1.7x
Upper Quartile	5.9x	19.7x	28.5x	3.8x

Health Care (cont'd)

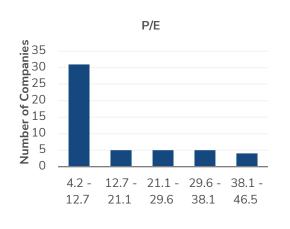


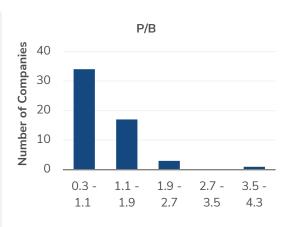


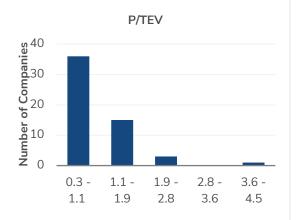


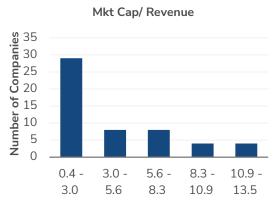


Financials



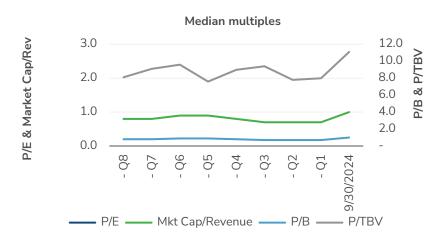


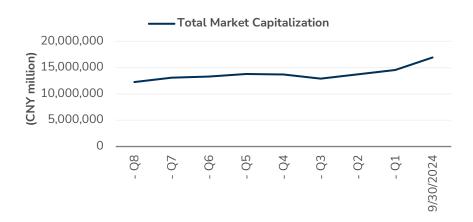


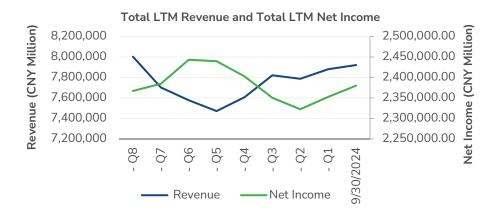


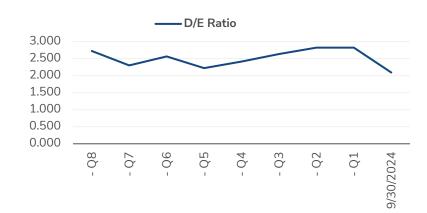
	P/E	P/B	P/TBV	Mkt Cap/ Revenue
Number of Observations	66	66	66	66
Number of Outliers	8	1	1	4
Negative Multiples or Multiple Errors				
High	46.5x	4.3x	4.5x	13.5x
Mean	16.6x	1.0x	1.0x	4.4x
Median	9.2x	1.0x	1.0x	3.0x
Low	4.2x	0.3x	0.3x	0.4x
Low Quartile	5.5x	0.5x	0.5x	2.3x
Upper Quartile	27.7x	1.3x	1.3x	6.4x

Financials (cont'd)

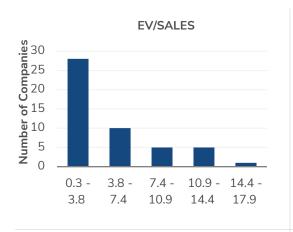


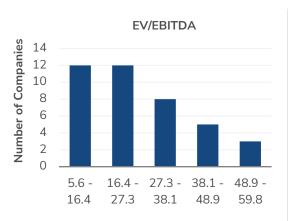


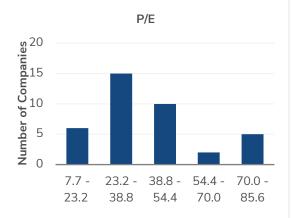


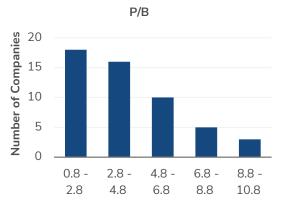


Information Technology



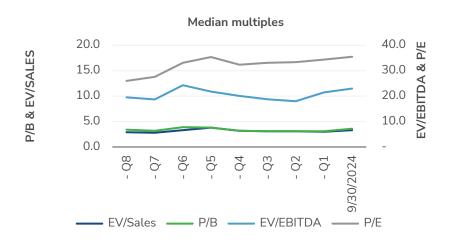




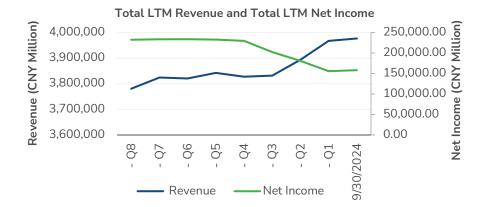


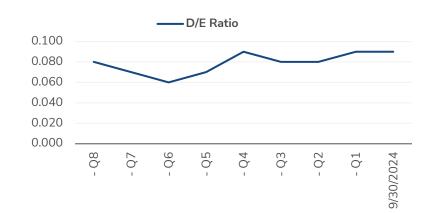
	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	85	85	85	85
Number of Outliers	7	18	23	5
Negative Multiples or Multiple Errors				
High	17.9x	59.8x	85.6x	10.8x
Mean	4.4x	22.9x	37.9x	3.8x
Median	2.8x	20.8x	33.0x	3.3x
Low	0.3x	5.6x	7.7x	0.8x
Low Quartile	1.5x	11.7x	25.5x	2.0x
Upper Quartile	5.8x	30.4x	44.8x	4.9x

Information Technology (cont'd)

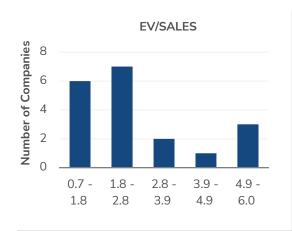


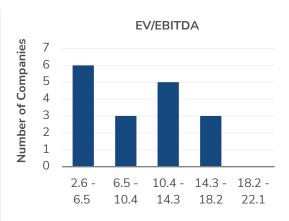


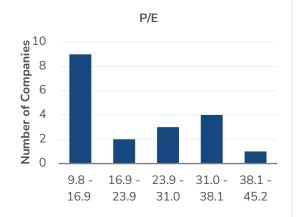


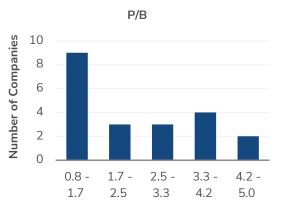


Communication Services



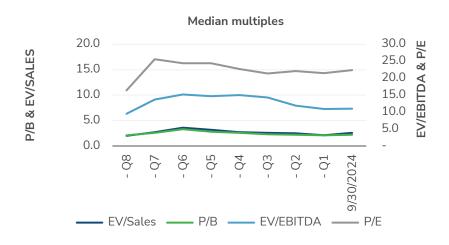




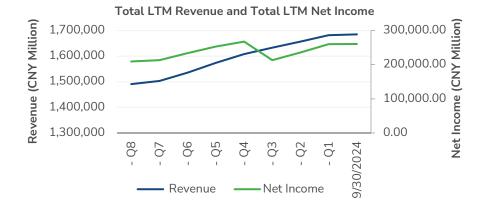


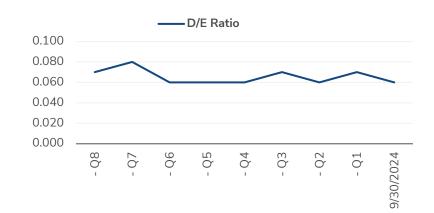
	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	22	22	22	22
Number of Outliers	3	4	2	1
Negative Multiples or Multiple Errors				
High	6.0x	22.1x	45.2x	5.0x
Mean	2.7x	10.2x	23.7x	2.4x
Median	2.5x	10.5x	20.0x	2.2x
Low	0.7x	2.6x	9.8x	0.8x
Low Quartile	1.6x	5.2x	14.8x	1.5x
Upper Quartile	3.0x	12.1x	33.3x	3.3x

Communication Services (cont'd)

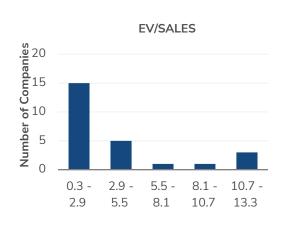


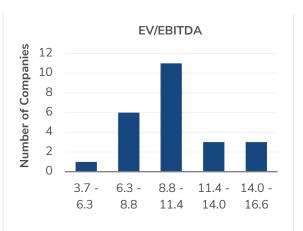


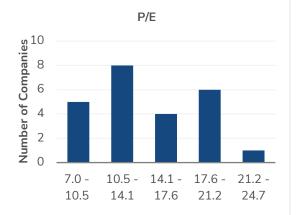


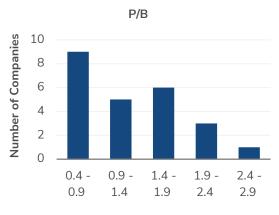


Utilities



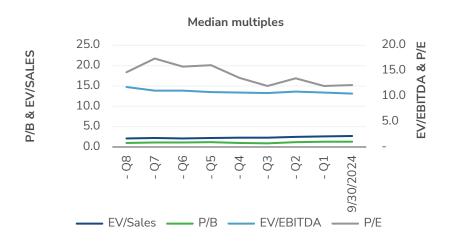


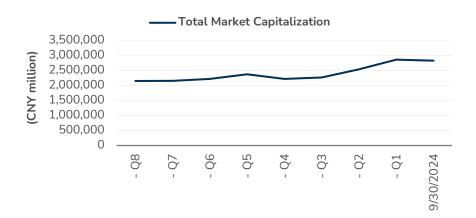


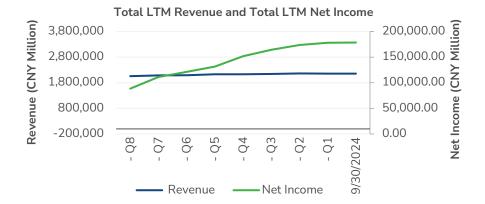


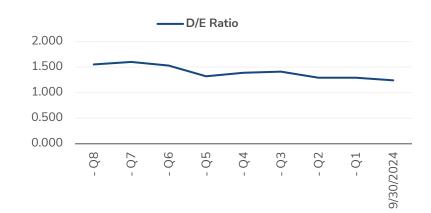
	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	26	26	26	26
Number of Outliers	1	2	1	2
Negative Multiples or Multiple Errors				
High	13.3x	16.6x	24.7x	2.9x
Mean	4.0x	10.6x	14.7x	1.3x
Median	2.5x	10.6x	13.9x	1.1x
Low	0.3x	3.7x	7.0x	0.4x
Low Quartile	1.4x	8.8x	11.0x	0.7x
Upper Quartile	5.3x	11.6x	18.4x	1.7x

Utilities (cont'd)

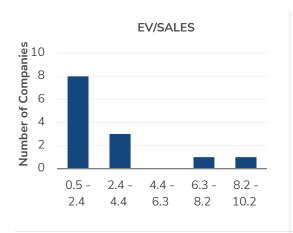


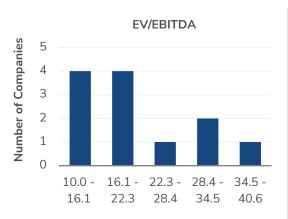


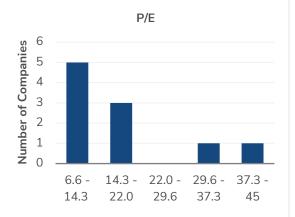


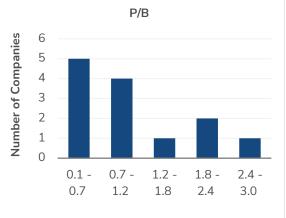


Real Estate



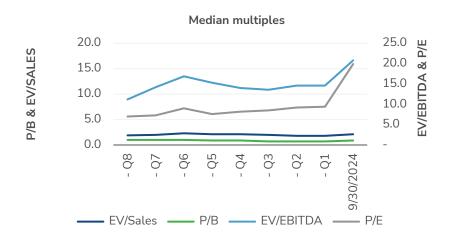


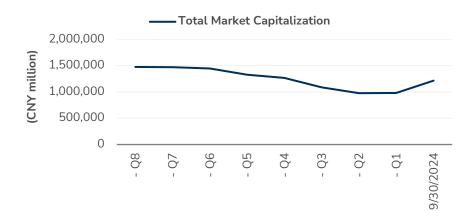


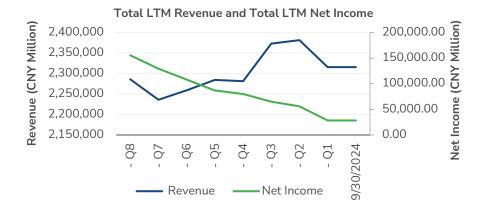


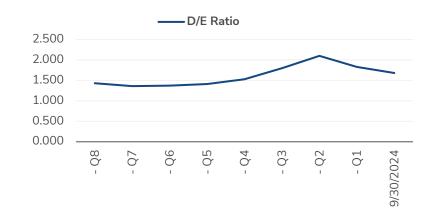
	EV/ Sales	EV/ EBITDA	P/E	P/B
Number of Observations	14	14	14	14
Number of Outliers	1	2	3	1
Negative Multiples or Multiple Errors				
High	10.2x	40.6x	45.0x	3.0x
Mean	3.1x	21.2x	20.2x	1.1x
Median	2.0x	20.5x	18.0x	0.9x
Low	0.5x	10.0x	6.6x	0.1x
Low Quartile	1.4x	13.4x	8.3x	0.6x
Upper Quartile	3.7x	26.7x	27.7x	1.5x

Real Estate (cont'd)









Industry Definitions

The industry classification for the companies represented in this report is based on the 2017 Global Industry Classification Standard® (GICS®). Below are brief descriptions of sub-industries that form part of a particular industry, based on the 2017 GICS® guidelines.

Consumer Discretionary	
Auto Parts and Equipment	Companies that manufacture parts and accessories for automobiles and motorcycles, including tires and rubber
Automobile Manufacturers	Companies that produce mainly passenger automobiles and light trucks. Also includes companies that produce motorcycles, scooters or three-wheelers
Media	Owners and operators of television or radio broadcasting systems, including programming. Includes radio and television, broadcasting, radio networks and radio stations. Providers of cable or satellite television and satellite radio services. Includes cable networks and program distribution. Also, publishers of newspapers, magazines and books in print or electronic formats. Companies providing advertising, marketing or public relations services
Apparel	Manufacturers of apparel, accessories and luxury goods. Includes companies primarily producing designer handbags, wallets, luggage, jewelry and watches and manufacturers of textile and related products
Household Appliances	Manufacturers of electric household appliances and related products. Includes manufacturers of durable household products, power and hand tools, including garden improvement tools, but excludes TVs and other audio and video products
Financials	
Banks	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. This also includes regional banks that tend to operate in limited geographic regions but excludes investment banks
Consumer Finance	Providers of consumer finance services, including personal credit, credit cards, lease financing, travel-related money services and pawn shops
Diversified Financial Services	Financial exchanges for securities, commodities, derivatives and other financial instruments, and providers of financial decision support tools and products, including ratings agencies. Providers of a diverse range of financial services and/or with some interest in a wide range of financial services including banking, insurance and capital markets, but with no dominant business line
Capital Markets	Financial institutions primarily engaged in diversified capital markets activities, including a significant presence in at least two of the following areas: large/major corporate lending, investment banking, brokerage and asset management. Includes financial exchanges for securities, commodities, derivatives and other financial instruments

Global Industry Classification Standard® (GICS®) was developed by S&P Dow Jones Indices, an independent international financial data and investment services company and a leading provider of global equity indices, and MSCI, a premier independent provider of global indices and benchmark-related products and services.

Industry Definitions (cont'd)

Health Care	
Healthcare Facilities and Services	Owners and operators of health care facilities, including hospitals, nursing homes, rehabilitation and retirement centers, and animal hospitals. Providers of patient health care services not classified elsewhere. Includes dialysis centers, lab testing services and pharmacy management services. Also includes companies providing business support services to health care providers, such as clerical support services, collection agency services, staffing services and outsourced sales and marketing services
Pharmaceuticals and Biotechnology	Companies engaged in the research, development or production of pharmaceuticals. Includes veterinary drugs. Companies primarily engaged in the research, development, manufacturing and/or marketing of products based on genetic analysis and genetic engineering. Includes companies specializing in protein-based therapeutics to treat human diseases
Materials	
Chemicals	Companies that primarily produce industrial chemicals and basic chemicals, including but not limited to plastics, synthetic fibers, films, commodity-based paints and pigments, explosives and petrochemicals. Producers of fertilizers, pesticides, potash or other agriculture-related chemicals including industrial gases and other diversified range of chemical products
Construction Material	Manufacturers of construction materials including sand, clay, gypsum, lime, aggregates, cement, concrete and bricks
Metals and Mining	Producers of aluminum and related products, including companies that mine or process bauxite and companies that recycle aluminum to produce finished or semi-finished products. Companies engaged in copper ore mining, production of iron and steel and related products, including metallurgical (coking) coal mining used for steel production, and having other diversified mining operations but excluding gold, silver and other precious metals
Utilities	
Electric and Gas Utilities	Companies that produce or distribute electricity including both nuclear and non-nuclear facilities. Includes companies whose main charter is to distribute and transmit natural and manufactured gas
Independent Power and Renewable Electricity Producers	Companies that operate as independent power producers (IPPs), gas and power marketing and trading specialists and/or integrated energy merchants. Companies that engage in generation and distribution of electricity using renewable sources including, but not limited to, companies that produce electricity using biomass, geothermal energy, solar energy, hydropower and wind power

Industry Definitions (cont'd)

All Other Industries		
Energy	Companies primarily involved in the production and mining of coal, related products and other consumable fuels related to the generation of energy. Companies engaged in the exploration and production of oil and gas. Companies engaged in the refining and marketing of oil, gas and/or refined products	
Household and Personal Products	Producers of packaged foods including dairy products, fruit juices, meats, poultry, fish and pet foods. Producers of non-durable household products, including detergents, soaps, diapers and other tissue and household paper products. Manufacturers of personal and beauty care products, including cosmetics and perfumes	
Industrial Machinery	Manufacturers of industrial machinery and industrial components. Includes companies that manufacture presses, machine tools, compressors, pollution control equipment, elevators, escalators, insulators, pumps, roller bearings and other metal fabrications	
Construction and Engineering	Companies engaged in primarily non-residential construction. Includes civil engineering companies and large-scale contractors	
Communication Services and Information Technology	Companies providing services and infrastructure for the internet industry including data centers and cloud networking and storage infrastructure. Also includes companies providing web hosting services. Excludes companies classified in the software industry	
Application Software	Companies engaged in developing and producing software designed for specialized applications for the business or consumer market. Includes enterprise and technical software, as well as cloud-based software. Excludes companies classified in the interactive home entertainment sub-industry. Also excludes companies producing systems or database management software classified in the systems software sub-industry	
Real Estate	Companies that develop real estate and sell the properties after development. Also companies engaged in a diverse spectrum of real estate activities including real estate development and sales, real estate management or real estate services, but with no dominant business line	

Methodology

The multiples in this report are based on the MSCI China Index, which aims to cover 85% of the free float market cap across H-shares, A-shares, B-shares, Red-chips, P-chips and foreign listed shares.

Our report provides a detailed overview of the P/B, P/E, EV/EBITDA and EV/sales multiples of companies in the MSCI China Index covering non-financial industries and P/B, P/E, P/TBV and market cap/revenue multiples covering financial industries for which such data is available.

In previous years, comparisons covered a period of two years. This year's report provides a five-year comparison of P/E multiples, revenue, net income, market capitalization, and debt-to-equity ratio trends for most of the industries covered, so that the evaluation can weigh performance against pre-pandemic data.

Note:

- 1) GICS® was used as the basis for industry definitions. An industry must have a minimum of five company participants to be considered for analysis. For all reported multiples in China, we have considered all companies in the MSCI China Index as of Sept. 30, 2023. The MSCI China Index is constructed based on the integrated China equity universe included in the MSCI Emerging Markets Index, providing a standardized definition of the China equity opportunity set. The index aims to represent the performance of large- and mid-cap segments with H-shares, B-shares, red chips, P chips and foreign listings (e.g., ADRs) of Chinese stocks. To avoid duplication, industry multiples for dual-listed companies are based on the shares listed in the Primary Exchange. Source: Index constituents were captured from MSCI's website: https://www.msci.com/china; financial data was derived from Standard & Poor's Capital IQ database.
- 2) Any outliers in the industry have been excluded from the above analysis. Outliers selection criteria: 1) Negative multiples; 2) multiples at 200 or above; 3) the first highest multiple of an individual industry is above 100 and different from the second highest by more than 60%; 4) multiples that exceed two standard deviations over the median
- 3) EV = Enterprise value = Market value of equity plus book value of debt plus book value of preferred stock and minority interest less book value of cash and short-term investments, Sales = Revenue for latest 12 months, EBITDA = Lease-adjusted earnings before interest, taxes, depreciation and amortization for latest 12 months, P/E = Market capitalization/net income to common excluding extraordinary items, P/B = Market capitalization/book value of common equity, Market cap/revenue = Market capitalization/ total revenue, P/TBV = Market capitalization/tangible book value. Financial information of companies reflects the latest available information based on company filings as of Sept. 30, 2023.
- 4) Outliers are excluded in the histograms presented above: "EV/Sales", "EV/EBITDA", "P/E", "P/B", "Mkt Cap/Revenue" and "P/TBV". Outliers are not excluded for time series analysis "Median multiples," in order to accurately assess the change in multiples across time.

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