

Industry Supply Chains Summary Report

A summary of select operating metrics for 19 industries,
comprising 3007 companies and \$33.4T in revenue.

Version 2022-1.1

2022-01-01



Version



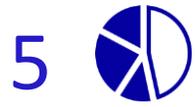
VERSION	NOTES
2021-1	Initial version, dated 02.19.21
2021-1.1	Fixed minor edits. Eliminated two companies for lack of data.
2021-1.2	Dated 04.26.21. Updated with the latest financials. Reduced number of companies (mostly due to exchange rate issues). Added CAPEX report. Added market cap multiple distribution charts. Added chart showing the impact of the pandemic on operating results.
2021-2.1	Updated financial and market cap data for 06.25.21. Removed companies that merged or were taken private. Added 2010-2020 aggregate view for overall average gross margin, inventory turns, operating profit margin, and ROIC over all those years)
2021-2.2	Fixed mis-aligned comments on pandemic operating impact chart (slide 9).
2021-3.1	Updated financial and market cap data for 11.30.21. Removed companies that merged or were taken private.
2022-1.1	Updated financial and market cap data for 01.01.22. Added companies and removed those that merged or were taken private.

Versioning convention: This document is versioned as follows: **YYYY.N.n**, where **YYYY** is the year, **N** is the major release number, and **n** is the minor release number. A major release includes one or more of the following: the number of companies changes; reports and analyses change; financial and market cap information are updated, and a new date is attached to the report. A minor fixes errors, including data errors, formatting errors, and inconsistencies.

Introduction

- This report is intended to provide information and insights into the operating characteristics of industries that make, move and store things (i.e., are part of the global goods-producing economy and associated global supply chains).
- The report includes 19 industries, comprising 3000+ companies from across the globe. In aggregate these companies represent approximately \$33 trillion in revenue. It profiles the following metrics for each of the industries: gross margin, operating margin, EBITDA, SG&A, inventory turns, physical asset intensity, CAPEX, ROIC, and market cap multiple. It provides this information for the latest financial results on a trailing twelve months basis (as of the date on the cover of this report), and for the past ten years.
- The report provides aggregate information for each industry, which is useful for understanding industry operating and structural characteristics.
- The data set is large enough that the analysis and insights here should be a proxy for the operating characteristics of individual industries and by extension the overall goods-producing economy.

Contents



DATA SET



OPERATING CHARACTERISTICS



TEN-YEAR HISTORY



APPENDIX

Industry Supply Chains

Data set



This data set is a reasonable proxy for global goods-producing industries and thus, global supply chains.

INDUSTRY	#	REVENUE (\$M)	COGS (\$M)	GROSS PROFIT (\$M)	INVENTORIES (\$M)	INV TURNS	GDP (\$M)
Aerospace and Defense	62	\$572,670	\$463,561	\$109,109	\$191,810	2.42	\$340,890
Automotive	150	\$3,158,890	\$2,554,508	\$604,382	\$401,598	6.36	\$1,881,636
Chemicals	152	\$1,005,606	\$704,832	\$300,773	\$154,433	4.56	\$653,189
Construction	128	\$1,075,981	\$806,770	\$269,211	\$219,607	3.67	\$672,596
Consumer Goods	202	\$1,077,650	\$554,047	\$523,603	\$197,080	2.81	\$800,627
Energy / Utilities	166	\$1,719,986	\$1,173,185	\$546,801	\$117,325	10.00	\$1,133,394
Food and Beverage	194	\$1,761,898	\$1,132,258	\$629,640	\$238,189	4.75	\$1,195,769
Hitech Electronics	169	\$2,161,777	\$1,510,202	\$651,574	\$252,215	5.99	\$1,406,675
Hitech Semiconductors	102	\$618,271	\$323,110	\$295,161	\$92,228	3.50	\$456,716
Industrials	296	\$3,173,936	\$2,330,962	\$842,974	\$509,359	4.58	\$2,008,455
Materials / Mining	238	\$2,136,218	\$1,481,104	\$655,114	\$344,926	4.29	\$1,395,666
Medical Equipment	122	\$567,936	\$260,900	\$307,035	\$76,875	3.39	\$437,486
Oil and Gas	209	\$4,376,109	\$3,403,141	\$972,967	\$357,729	9.51	\$2,674,538
Pharmaceuticals	127	\$1,059,023	\$347,083	\$711,940	\$162,324	2.14	\$885,482
Restaurants	74	\$208,468	\$140,003	\$68,465	\$5,326	26.29	\$138,467
Retail	234	\$4,567,186	\$3,338,081	\$1,229,105	\$455,780	7.32	\$2,898,146
Telecommunications	113	\$1,502,794	\$637,629	\$865,166	\$29,766	21.42	\$1,183,980
Transportation	191	\$1,283,002	\$1,063,540	\$219,463	\$49,983	21.28	\$751,232
Wholesale Distribution	78	\$1,375,200	\$1,229,023	\$146,177	\$128,215	9.59	\$760,689
ALL INDUSTRIES	3007	\$33,402,602	\$23,453,939	\$9,948,663	\$3,984,767	5.89	\$21,675,633

NOTES & INSIGHTS

- The data set is made up of >3000 companies from across the globe in 19 industries. Companies are limited to those that make, move, or store physical products. The revenue cutoff point in each industry is somewhere between \$200M and \$1.5B.
- Inventory turns shown here are aggregate inventory turns calculated as aggregate COGS divided by aggregate inventory within each industry and for all industries.
- Aggregate inventory turns for all companies are slightly less than six. This likely represents the inventory turns for the overall global economy. This is the same as for the previous version of this report, which was made up of approximately 2300 companies. Adding seven hundred companies resulted in the same aggregate inventory turns, which is a validation point for the data.
- Source for all data is YCharts and WorldLocity analysis.
- All data in this report are aggregated for each industry. Aggregate data gives a better view of the operational characteristics of an industry than an average of percentages for each company.

Notes:

1. All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report.
2. GDP is a rough estimate. It is derived as a simple equation: gross profit plus one-half cost of goods sold. The reasoning is that gross profit represents the value-add pricing power of a company, and that some percentage of COGS includes transformation activity. US Bureau of Economic Analysis shows a GDP to gross output ratio of approximately 0.57 for the overall economy. Future versions of this report may attempt to reconcile these numbers and produce a better percentage for the value add that is included in COGS.
3. "All Industries" represents aggregate values across all industries.
4. Source of all data is YCharts and WorldLocity analysis.

Industry Supply Chains

Data set – a proxy for the global supply chain

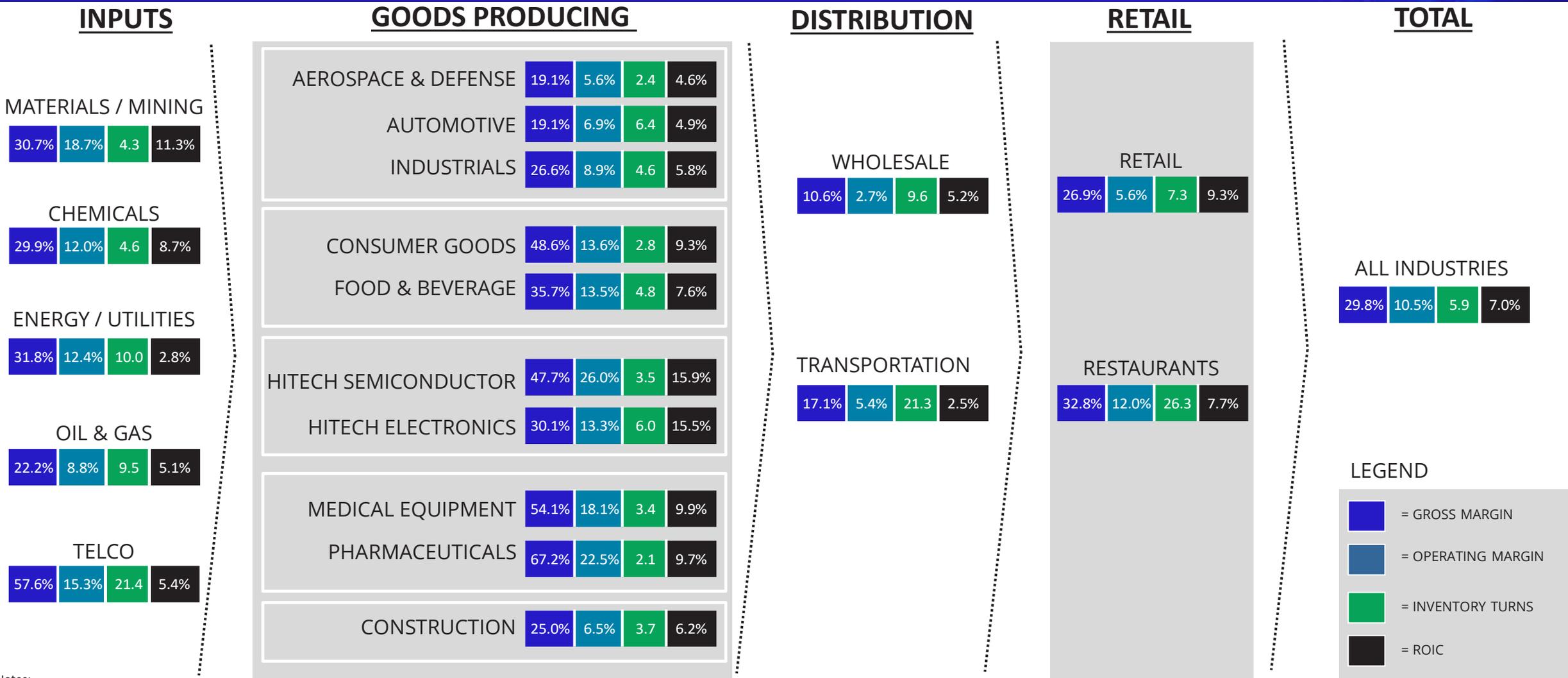


Notes:

1. All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report
2. Source of all data is YCharts and WorldLocality analysis.

Industry Supply Chains

A summary of four key metrics for each industry (TTM)

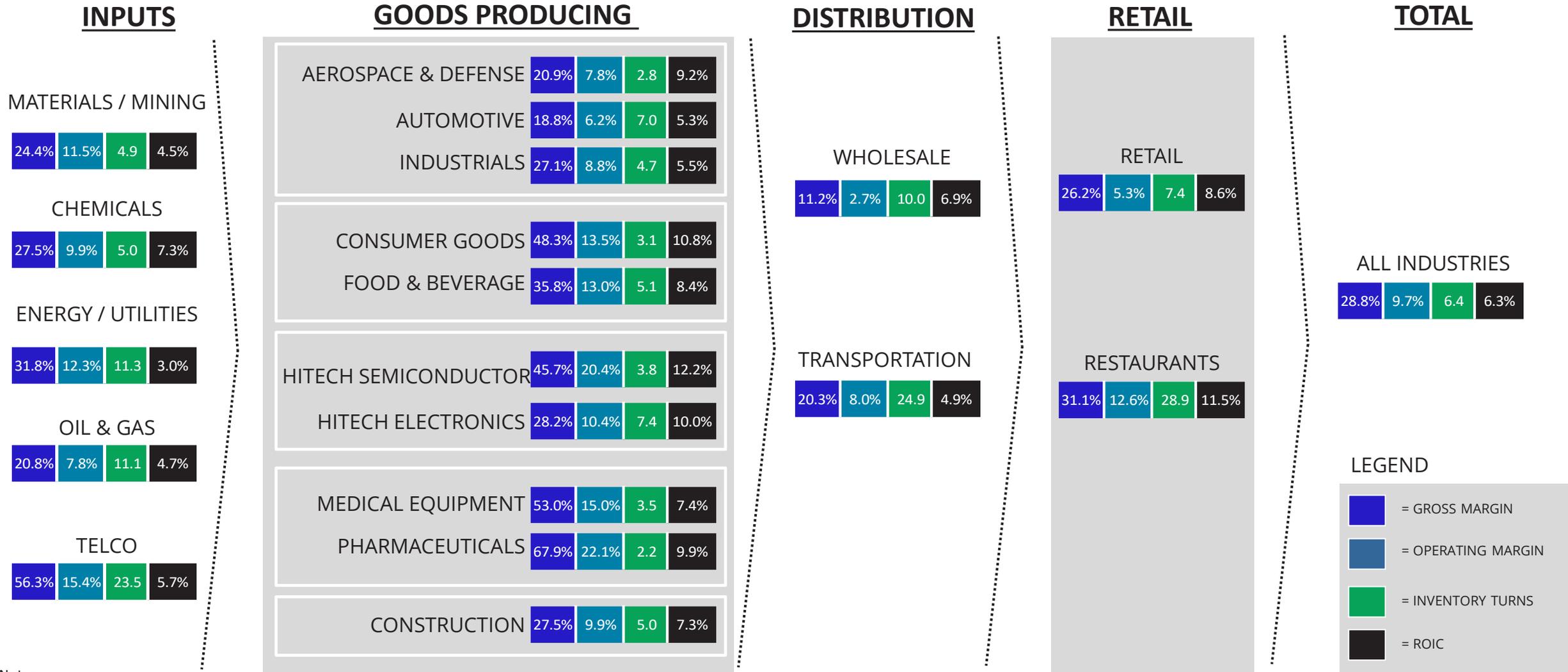


Notes:

1. All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report. For certain industries, these TTM numbers will be skewed significantly lower by the impact of the pandemic.
2. All numbers are aggregate for each industry, calculated by summing each variable within each industry (not an average of percentages for each company). "All Industries" is the aggregate value for all industries (not the average of the percentages for each industry).
3. Source of all data is YCharts and WorldLocity analysis.

Industry Supply Chains

A summary of four key metrics for each industry (aggregate for 2011-2021)



Notes:

1. All numbers are based on the average of the aggregates for each of the years of 2011 to 2021. Results for 2021 are based on those available as of the date on the cover of this report. "All Industries" numbers are averages of the aggregate for all industries for each year (2011-2021).
2. Source of all data is YCharts and WorldLocity analysis.

Industry Supply Chains

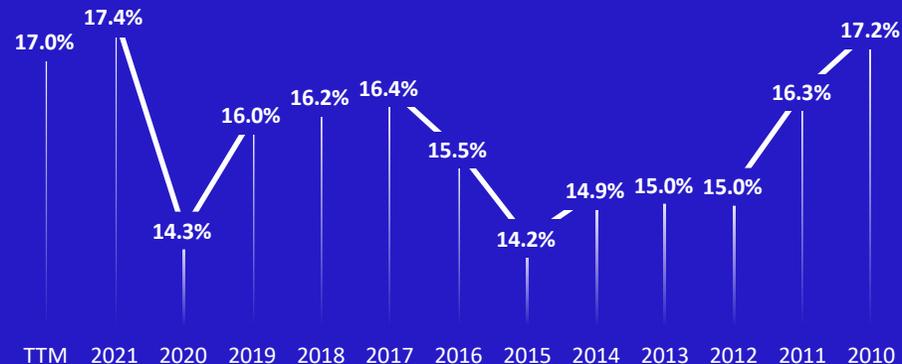
Global aggregate metrics across 19 industries



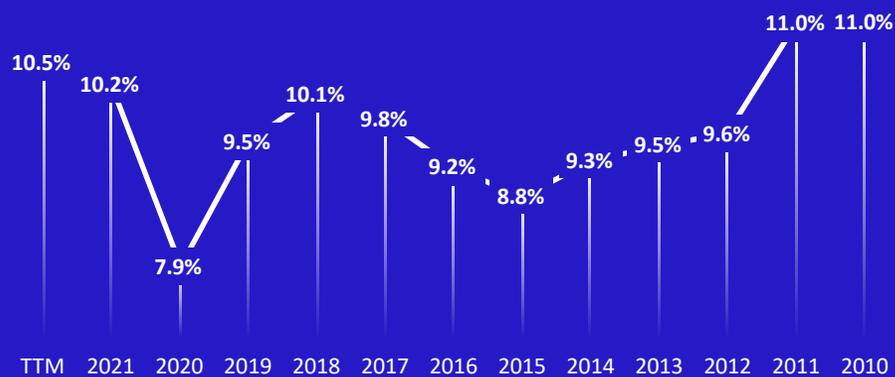
GROSS MARGIN



EBITDA



OPERATING PROFIT



NET PROFIT



NOTES & INSIGHTS

- Aggregate numbers are for all goods-producing, transportation, and distribution industries. These numbers give a general sense of operating characteristics of supply chains and how they change over time.
- Aggregate gross margin for all industries is about 30% and has rebounded significantly from its 2020 pandemic low.
- Aggregate operating and net profits have rebounded significantly from their 2020 pandemic lows and are now above their pre-pandemic numbers.

Notes:

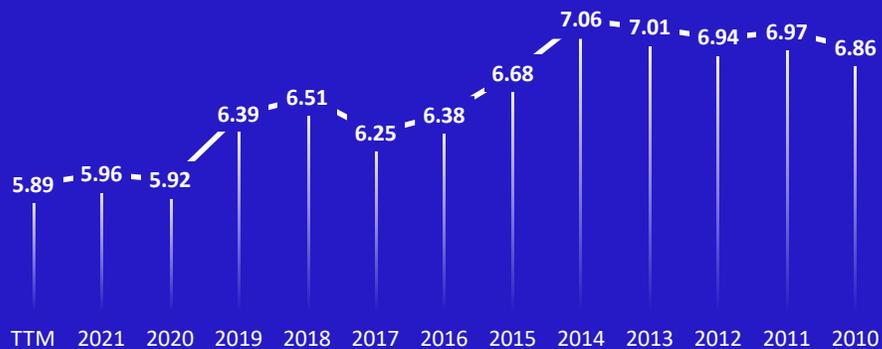
- TTM = trailing twelve months as of the date on the cover of this report. This typically means the most recently reported four quarters for each company.
- All numbers are based on aggregate data for all companies across all industries. For example, gross margin is calculated as: (aggregate revenue for all companies in all industries minus aggregate COGS for all companies in all industries) divided by aggregate revenue for all companies in all industries.
- Source of all data is YCharts and WorldLocity analysis.

Industry Supply Chains

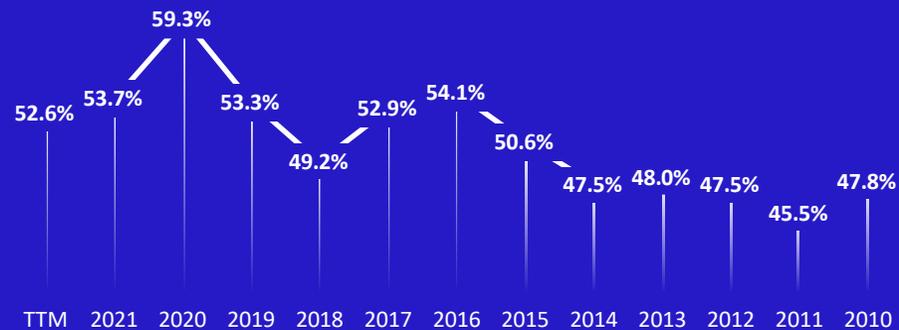
Global aggregate metrics across 19 industries



INVENTORY TURNS



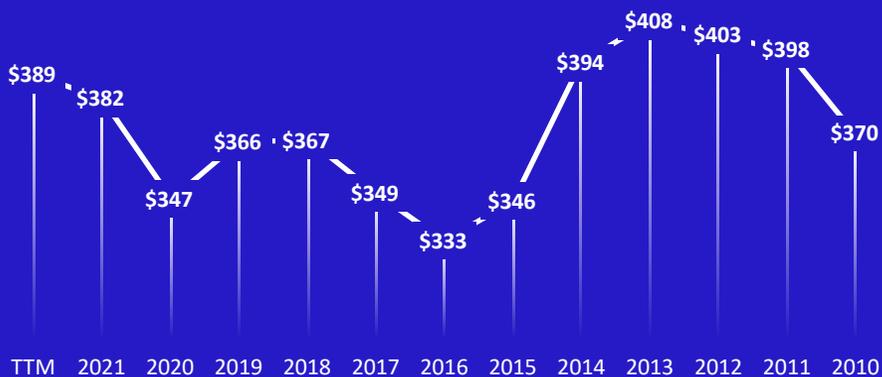
PP&E (NET) % OF REVENUE



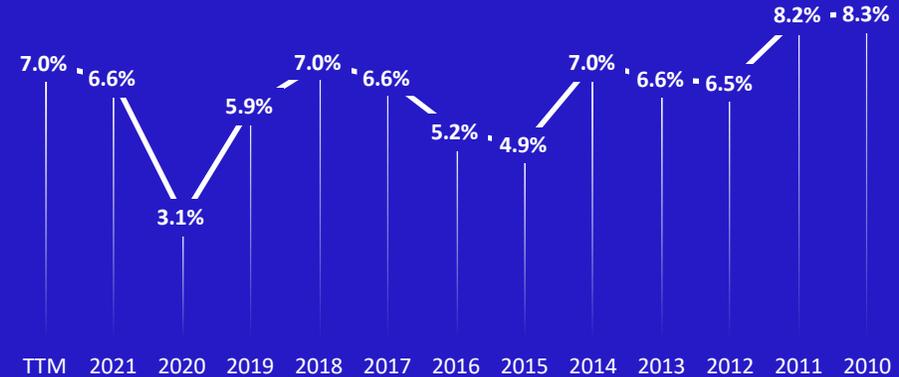
NOTES & INSIGHTS

- Aggregate numbers are for all goods-producing, transportation, and distribution industries. These numbers give a general sense of operating characteristics of supply chains and how they change over time.
- Inventory turns held steady at about 7 for the first several years of the 2010s and then have dropped significantly since then. This is likely due to e-Commerce competition, along with product variety, SKU-count and variant increases, and shortened, multiple delivery paths (omni-channel).
- Fixed assets a percentage of revenue held steady for the first several years of the 2010s and then increased since then. Some of the increase in 2019 was due to accounting rule IFRS 16, which requires companies to report lease assets on their balance sheets. Some of the increase in 2020 is due to the pandemic-driven revenue recession.

REVENUE PER EMPLOYEE (\$K)



ROIC

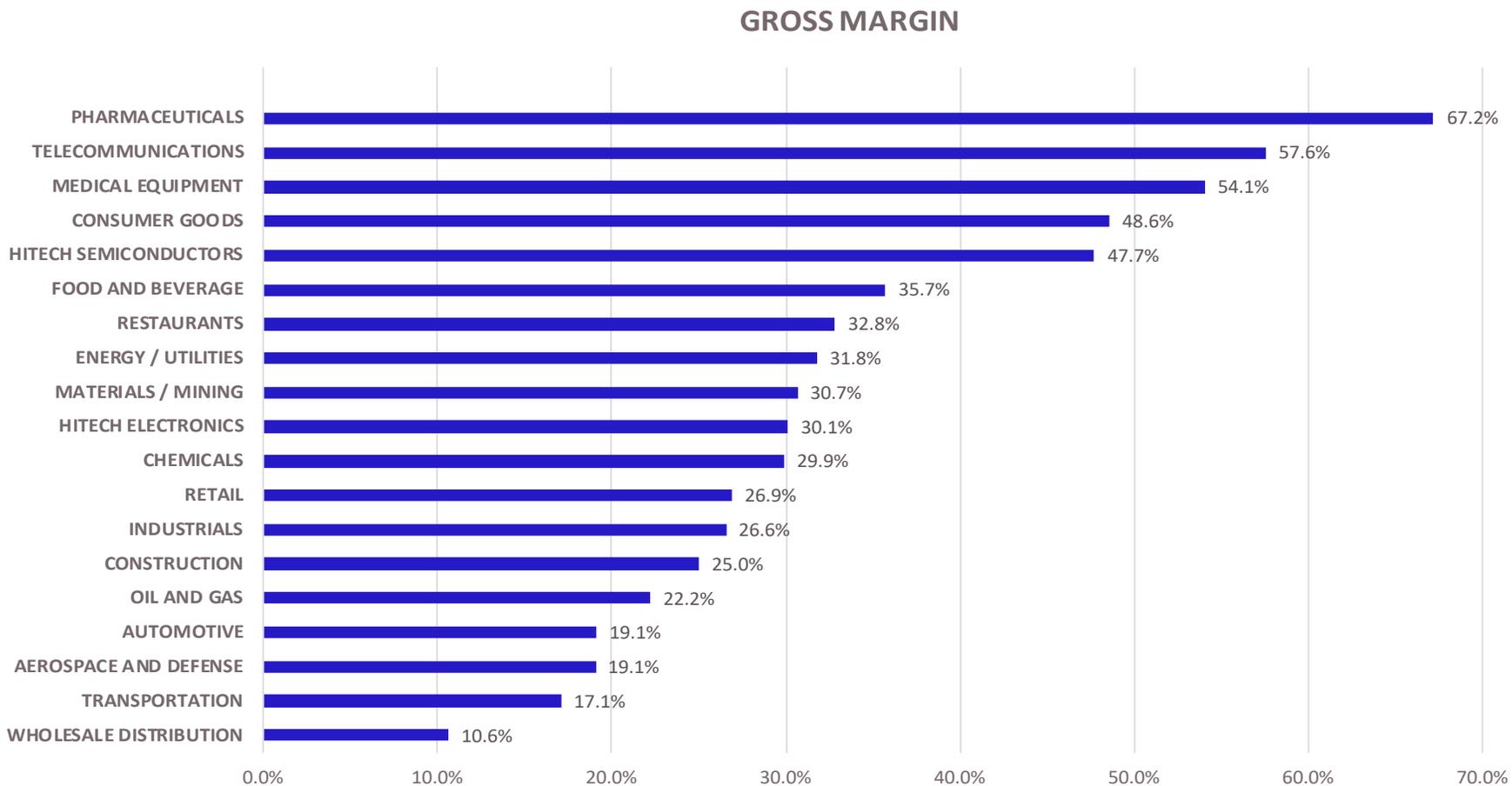


Notes:

- TTM = trailing twelve months as of the date on the cover of this report. This typically means the most recently reported four quarters for each company.
- All numbers are based on aggregate data for all companies across all industries. For example, inventory turns are calculated as: aggregate COGS for all companies in all industries divided by aggregate inventory for all companies in all industries.
- Source of all data is YCharts and WorldLocity analysis.

Industry Supply Chains

Gross margin



NOTES & INSIGHTS

- High gross margin industries are generally characterized by high IP content and/or low relative material content and/or low conversion costs.
- Low gross margin industries typically have high procurement costs and/or significant bills of materials, or high price fluctuations (e.g., oil and gas), which can lead to peaks and valleys in gross margin. They typically also have higher conversion costs.
- Some industries do not specifically break out COGS on their income statement. COGS here is defined as all costs required to deliver a product or service to a customer, except for sales and corporate general and administrative costs.

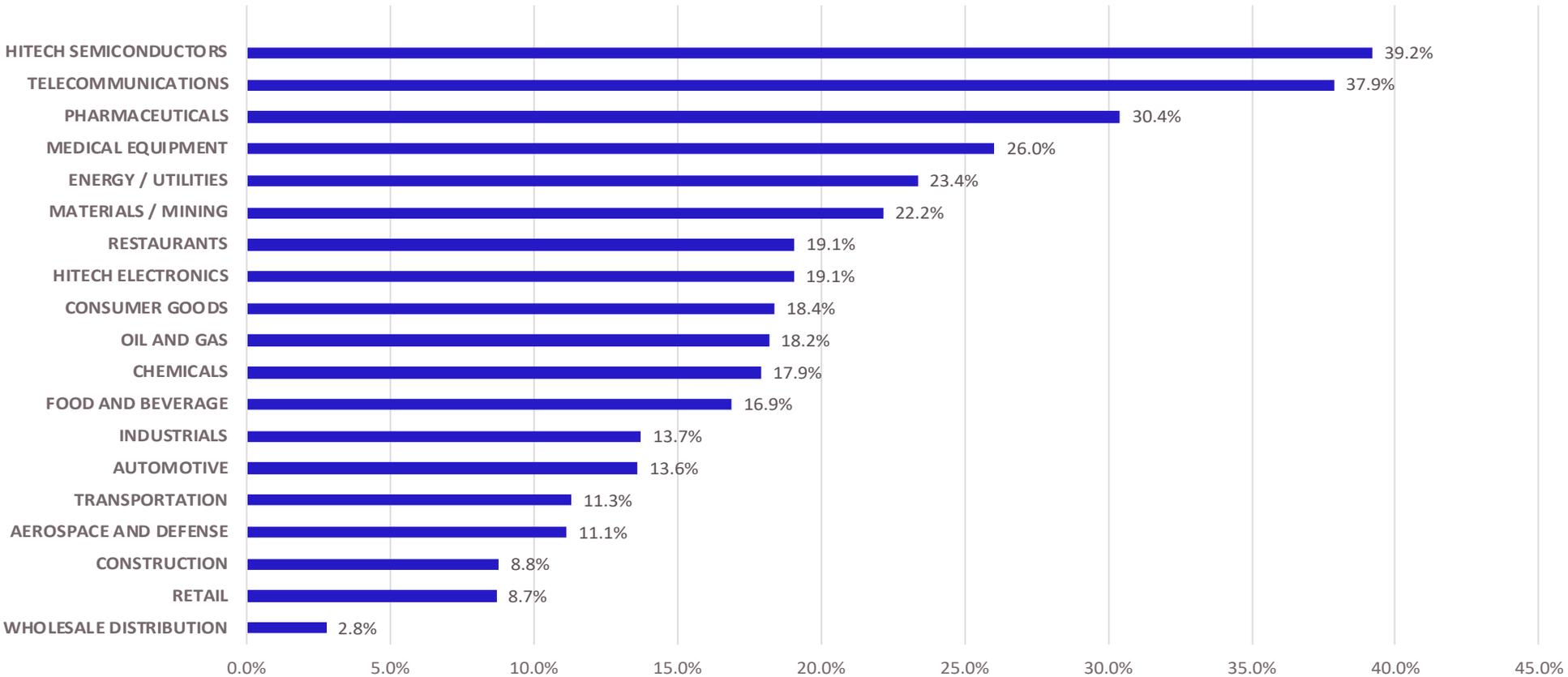
Notes:

- All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report.
- This is an aggregate view: industry gross margin = (aggregate revenue minus aggregate COGS) divided by aggregate revenue for each industry.
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

EBITDA margin

EBITDA % OF REVENUE



NOTES & INSIGHTS

- Hitech semiconductor, telco, pharmaceuticals, energy and utilities, and medical equipment all lead in EBITDA margin.
- Energy and utilities have high depreciation and amortization costs resulting from their large asset bases, so when these costs get added back, they drive high EBITDA.

Notes:

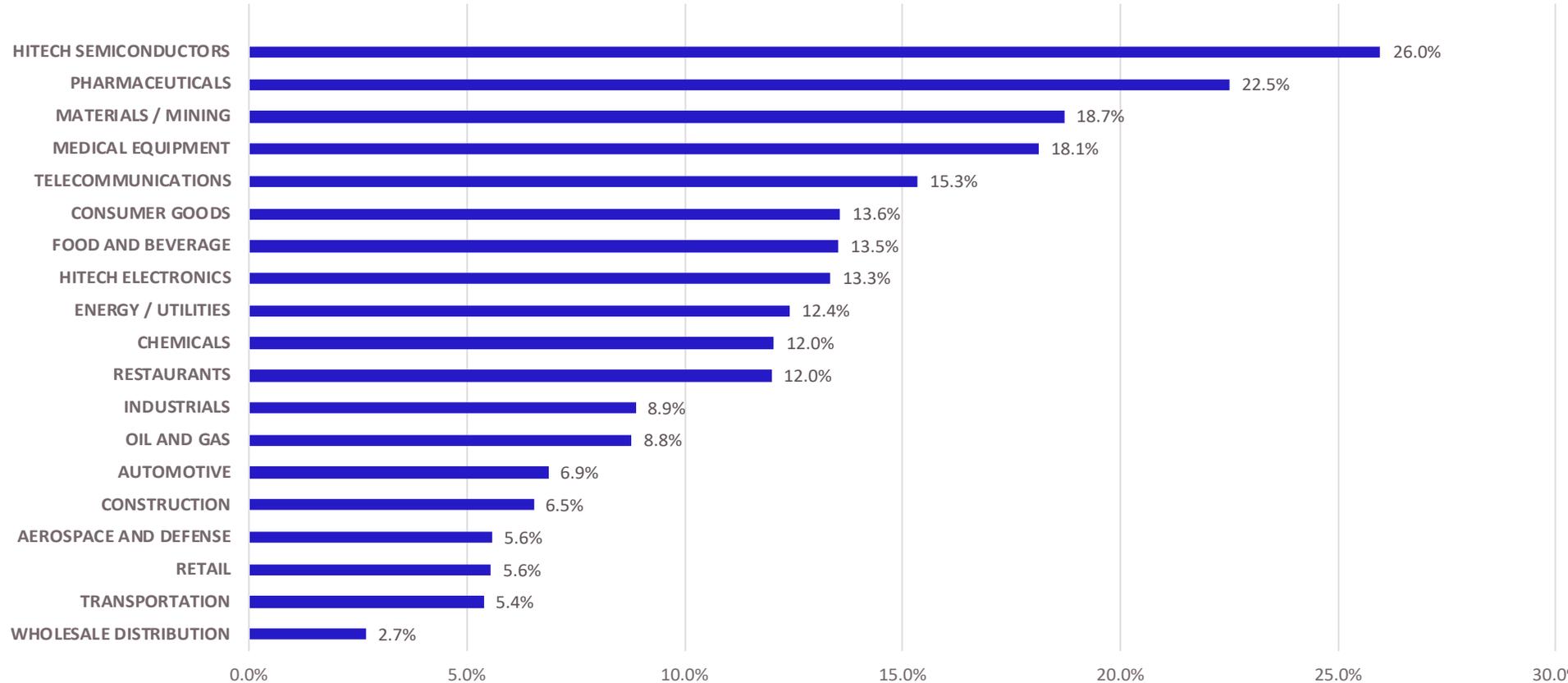
1. All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report.
2. This is an aggregate view: industry EBITDA margin = aggregate EBITDA divided by aggregate revenue for each industry.
3. Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Operating profit margin



OPERATING PROFIT % OF REVENUE



NOTES & INSIGHTS

- Hitech semiconductor, pharmaceuticals, and medical equipment, all industries with high IP content, have the highest operating margins.
- Materials / mining operating income is prone to boom-and-bust cycles based on pricing and supply availability. It is currently going through a boom which is rippling through the economy. This is reflected in its high operating income.

Notes:

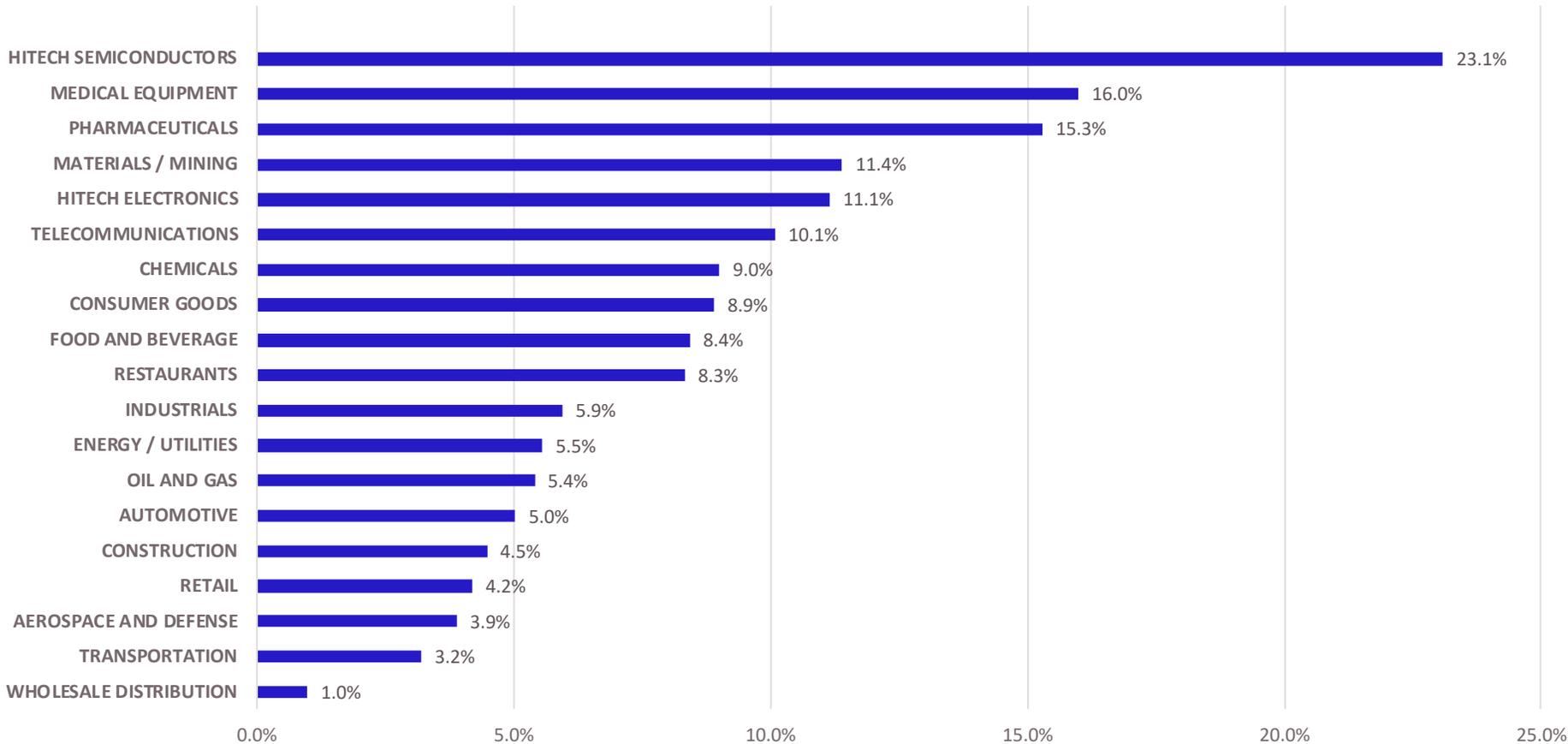
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2. This is an aggregate view: industry operating margin = aggregate operating income divided by aggregate revenue for each industry.
3. Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Net profit margin



NET PROFIT % OF REVENUE



NOTES & INSIGHTS

- Hitech semiconductor, medical equipment, and pharmaceuticals, all industries with high IP content, have the highest net profit margins.
- Materials / mining operating income is prone to boom-and-bust cycles based on pricing and supply availability. It is currently going through a boom which is rippling through the economy. This is reflected in its high net profit margins.
- Operating margins generally follow gross margins, but not always, since some industries must spend significantly more on SG&A and R&D.

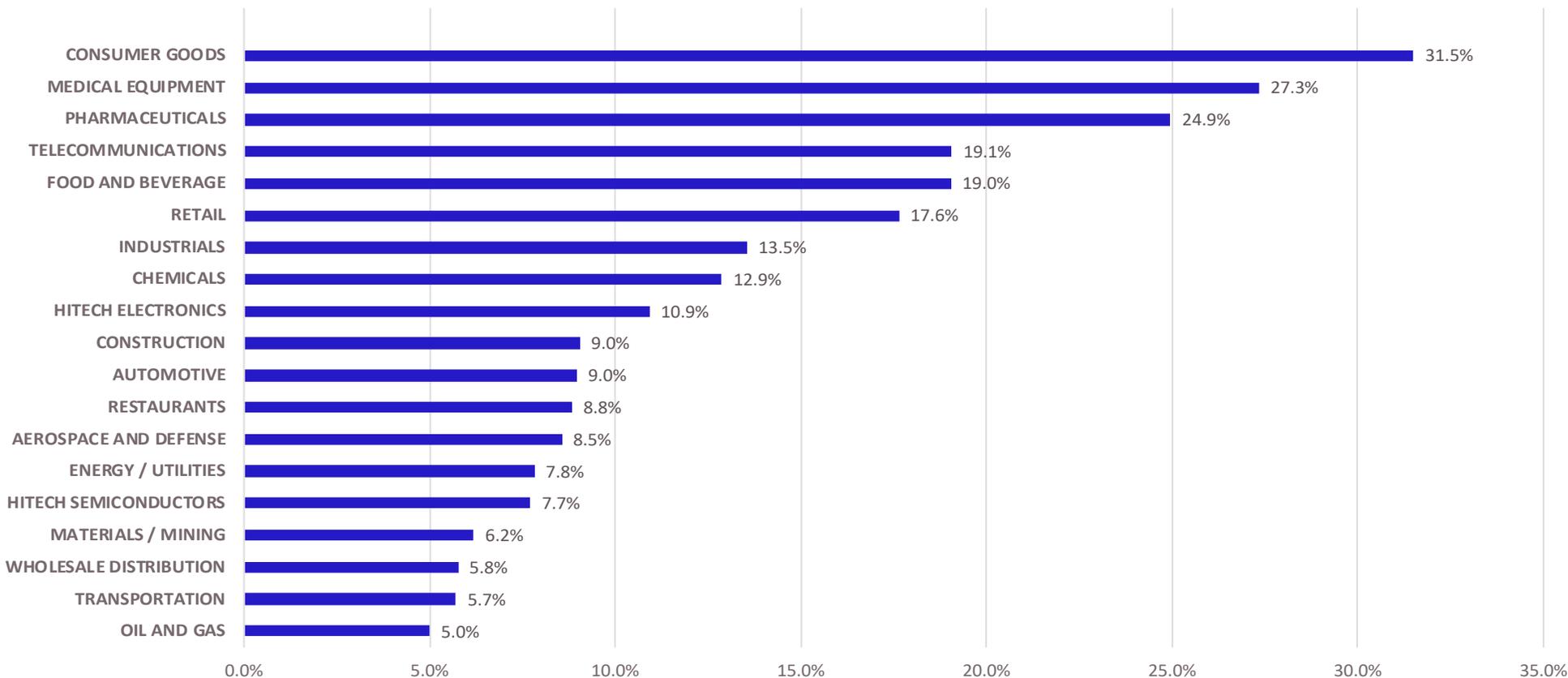
Notes:

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2. This is an aggregate view: industry operating margin = aggregate operating income divided by aggregate revenue for each industry.
3. Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Selling, general, and administrative (SG&A) costs

SG&A % OF REVENUE



NOTES & INSIGHTS

- Consumer goods, medical equipment, pharmaceuticals, telco, and food and beverage all have significant SG&A costs, typically with large sales/ account teams and high advertising and promotion budgets.
- How products are sold and promoted has significant implications for supply chains, with leading companies providing increasing synchronization between selling, promoting, and supply chain functions.
- Companies with low SG&A are typically B2B companies and/or have a service orientation driven by long-term contracts. Some, like automotive companies, have large dealer networks that provide a retail selling function separate from their financials.

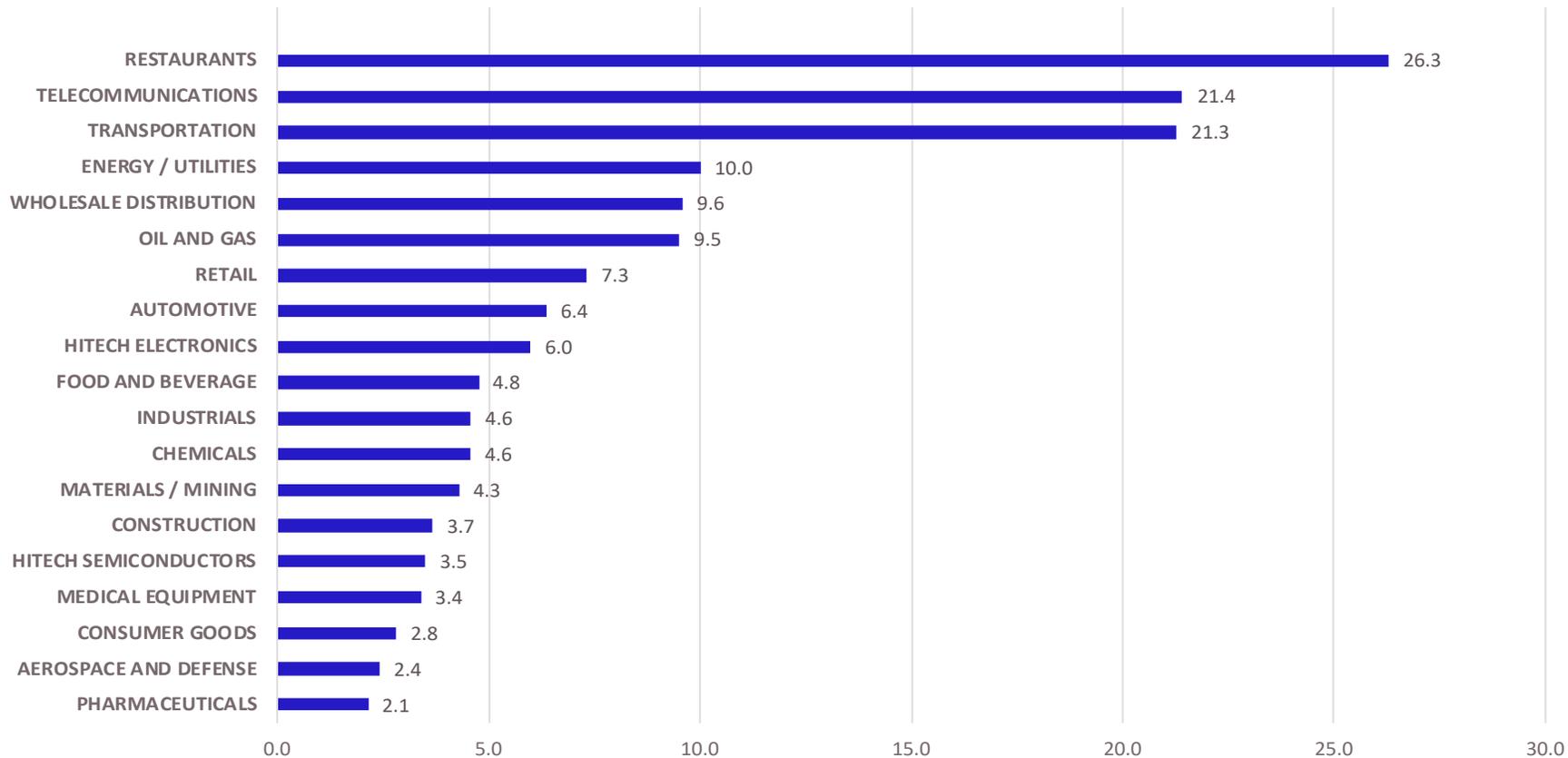
Notes:

- All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report.
- This is an aggregate view: industry SG&A % of revenue = aggregate SG&A divided by aggregate revenue for each industry.
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Inventory turns

INVENTORY TURNS



NOTES & INSIGHTS

- The top three inventory turn industries are more service-oriented industries, versus goods-producing, thus they carry low inventories. In the case of restaurants, their inventories are perishable and must be turned very quickly. Transportation companies typically do not own the inventory they move, so their inventories are typically spare parts, fuel, and other materials needed to support their fleets.
- Historically, there is a general inverse relationship between gross margin and inventory turns, with high gross margin products typically having fewer turns and vice versa. This is generally but not always true (as in the case of A&D).

Notes:

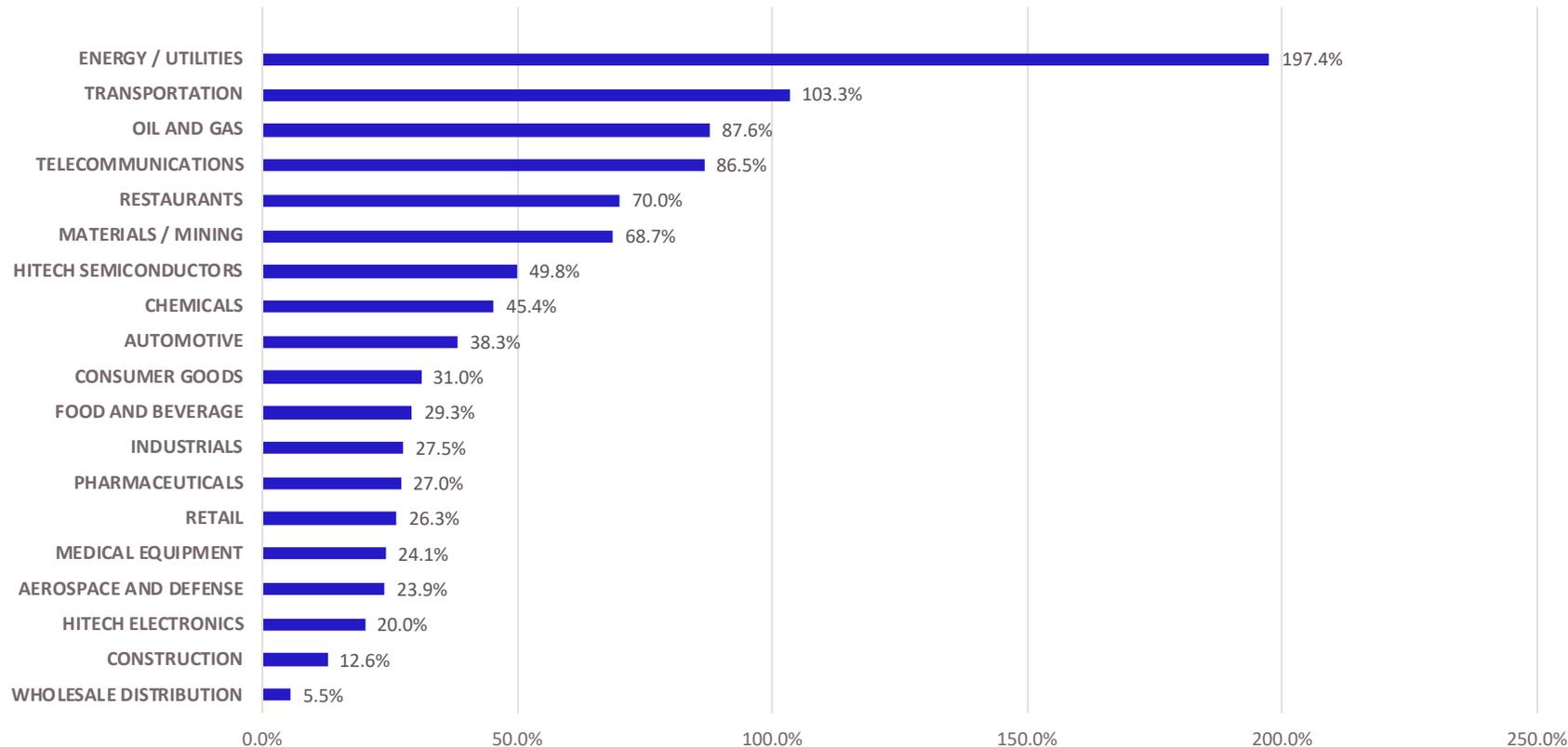
1. All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report.
2. This is an aggregate view: industry inventory turns = aggregate COGS divided by aggregate inventory for each industry.
3. Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Asset intensity: PP&E (net) / revenue



PP&E (NET) % OF REVENUE



NOTES & INSIGHTS

- PP&E is commonly referred to as “fixed assets.” This analysis includes operating leases as part of fixed assets.
- Energy and utility companies are by far the most asset-intensive, typically requiring greater than \$2 of fixed assets for each dollar of revenue.
- Transportation companies (trains, planes, trucks), oil and gas, materials industries, and restaurants are also highly asset-intensive.
- Asset-intensive industries have a high focus on capacity management and asset utilization.
- Industries that are lower on the asset-intensity list have a higher focus on materials. They typically need to coordinate materials to a bill of materials, or to flow materials (SKUs) quickly across the asset base.
- Some industries such as automotive and A&D do require large amounts of physical assets but make highly priced products across the asset base.

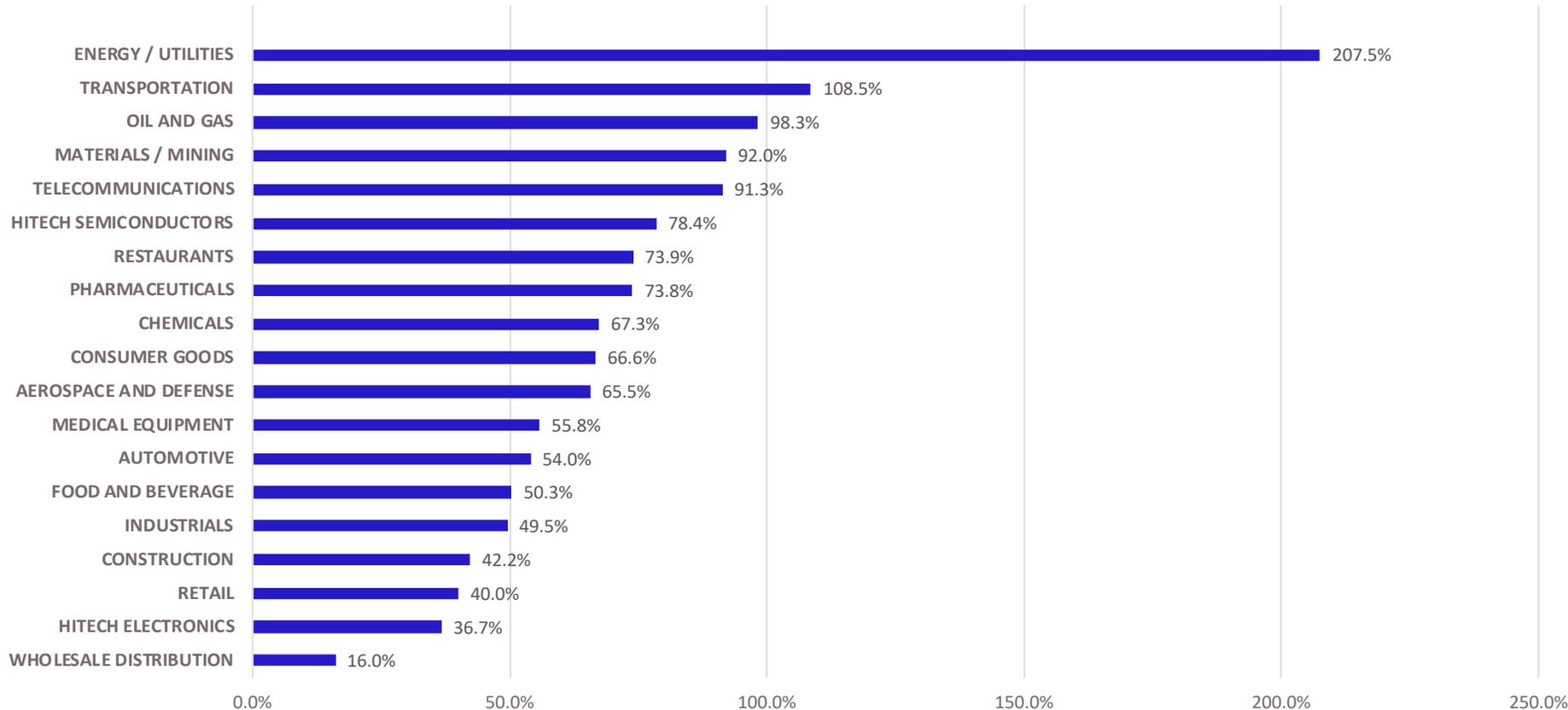
Notes:

1. All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report.
2. This is an aggregate view: industry asset intensity = (aggregate PP&E + aggregate inventories) divided by aggregate revenue for each industry. PP&E is net of depreciation plus operating leases.
3. Source of all data is YCharts and WorldLocality analysis.

Industry Supply Chains

Asset intensity: physical assets / revenue

PHYSICAL ASSETS (PP&E + INVENTORIES) % OF REVENUE



NOTES & INSIGHTS

- This is a different view of asset-intensity. It adds net PP&E (including operating leases) and inventories.
- Energy and utility companies are by far the most asset-intensive, requiring greater than \$2 of fixed assets for each dollar of revenue.
- Transportation companies (trains, planes, trucks), oil and gas, materials industries, telecommunications, semiconductor and pharmaceuticals and restaurants are also asset-intensive. Semiconductors and pharmaceuticals have low inventory turns; thus, they move up the list on this chart versus PP&E alone.
- Asset-intensive industries have a high focus on capacity management and asset utilization.
- Industries that are lower on the asset-intensity list have a higher focus on materials. They typically need to coordinate materials to a bill of materials, or to flow materials (SKUs) quickly across the asset base.
- Some industries such as automotive and A&D do require large amounts of physical assets but make highly priced products across the asset base.

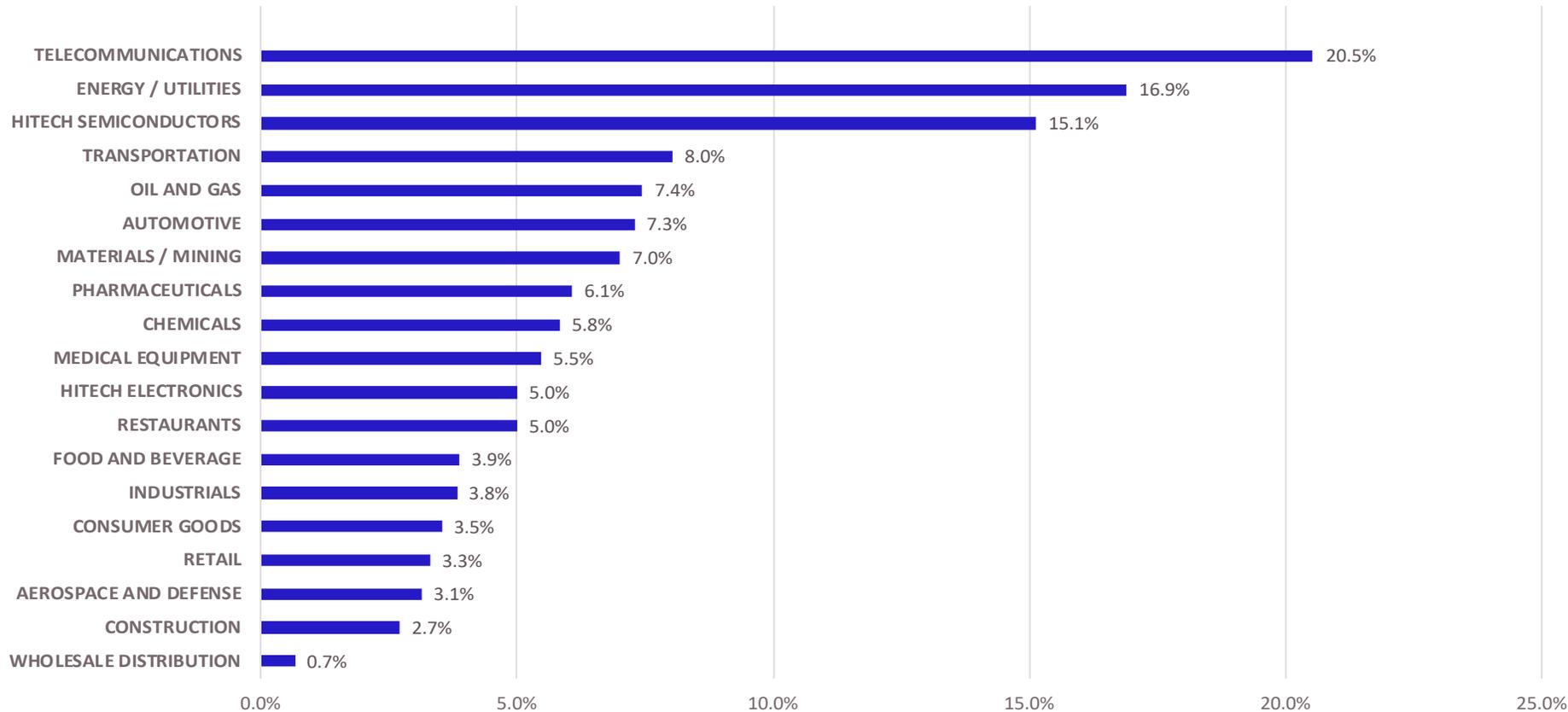
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2. This is an aggregate view: industry asset intensity = (aggregate PP&E + aggregate inventories) divided by aggregate revenue for each industry. PP&E is net of depreciation, including operating leases.
3. Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Asset intensity: CAPEX / revenue

CAPEX % OF REVENUE



NOTES & INSIGHTS

- Capital expenditures are another way of looking at asset intensity. Companies with large asset bases require large CAPEX to maintain and grow the asset base.
- In this case, Energy, Telco, Hitech Semi, Oil and Gas, and Transportation are the top 5.
- Asset-intensive industries have a high focus on capacity management and asset utilization.
- Industries that are lower on the CAPEX list have a higher focus on materials. They typically need to coordinate materials to a bill of materials, or to flow materials (SKUs) quickly across the asset base.

Notes:

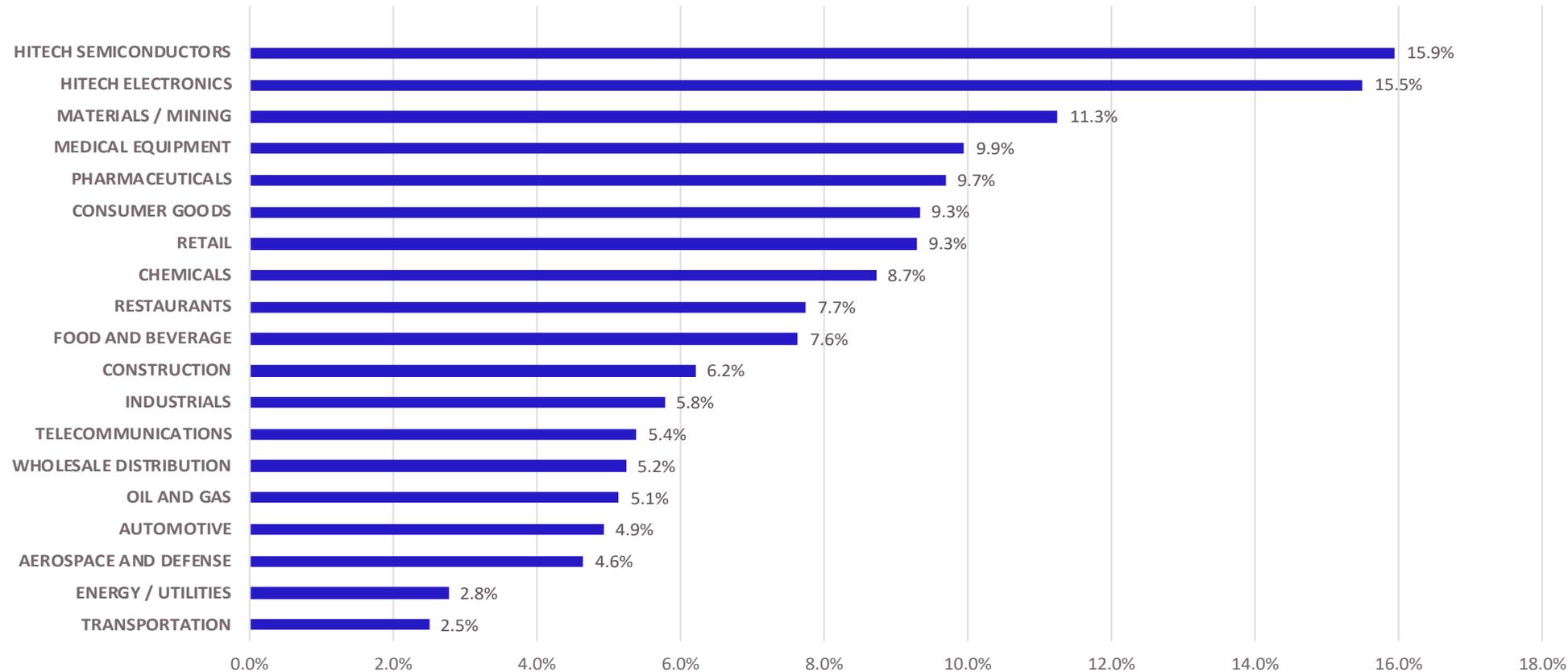
- All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report.
- This is an aggregate view: industry asset intensity = aggregate CAPEX divided by aggregate revenue for each industry.
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Return on invested capital (ROIC)



RETURN ON INVESTED CAPITAL



NOTES & INSIGHTS

- Return on invested capital is a measure of how well a company is delivering return on the debt and equity invested in a business. This chart shows aggregate numbers for each of the industries, calculated as aggregate net profit divided by (aggregate debt plus aggregate equity).
- Transportation returns are dragged down by the airlines, which have been disproportionately impacted by the pandemic.

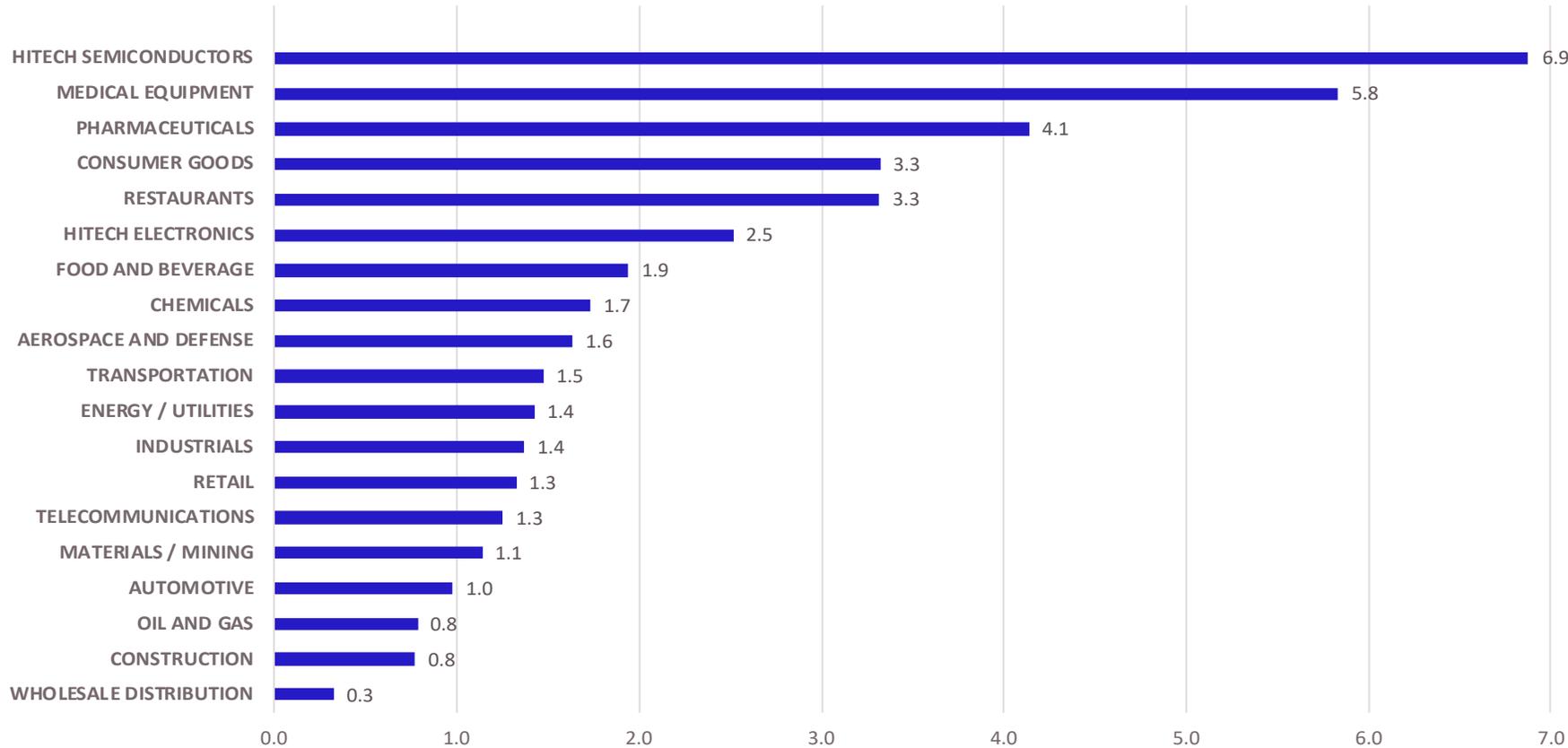
Notes:

- All numbers are based on trailing twelve months (TTM) results as of the date on the cover of this report.
- This is an aggregate view: industry ROIC = aggregate net income divided by aggregate invested for each industry. Aggregate invested capital = aggregate debt plus aggregate equity for each industry.
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Market cap / revenue

MARKET CAP / REVENUE



NOTES & INSIGHTS

- Industries with significant intellectual property content enjoy significantly higher market cap multiples than others.
- Industrial-oriented industries have significantly lower multiples.
- Wholesale distribution, which has low gross and operating margins, operates like a pass-through business which could contribute to its low multiples.

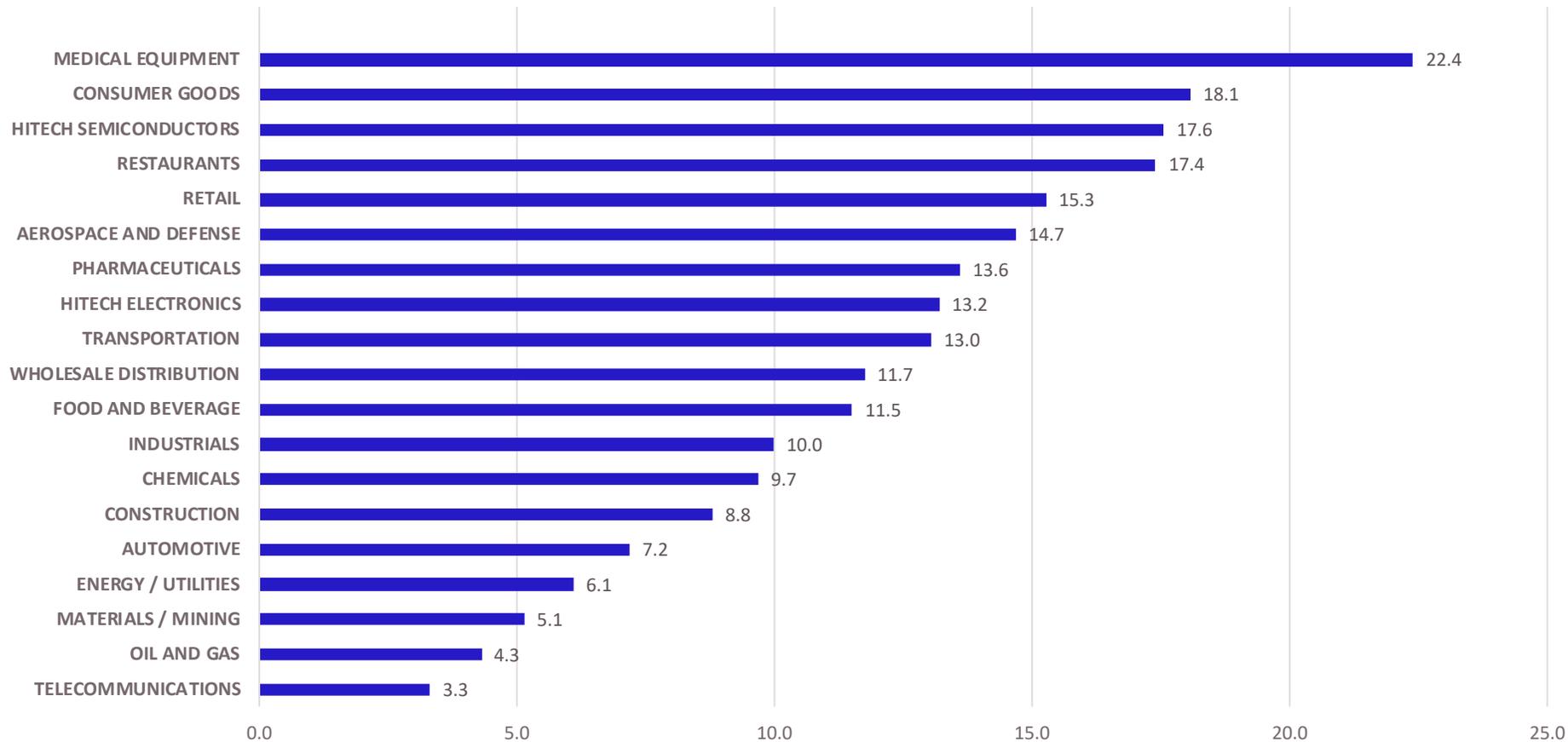
Notes:

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- This is an aggregate view: industry market cap multiple = aggregate market cap for the industry divided by aggregate revenue for the industry.
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Market cap / EBITDA

MARKET CAP / EBITDA



NOTES & INSIGHTS

- Aggregate industry market cap multiples of EBITDA have a wide range.
- Multiples in many industries are high relative to historical averages.

Notes:

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2. This is an aggregate view: industry market cap multiple = aggregate market cap for the industry divided by aggregate EBITDA for the industry.
3. Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Gross margin – ten-year history



NOTES & INSIGHTS

- At an aggregate level in all industries, gross margins have been remarkably consistent across the past decade, with some compression in 2020 in some industries, possibly due to the impact of the pandemic. However, even in 2020 aggregate numbers did not compress that much, indicating companies were able to lower cost of goods in lock step with revenue.
- High gross margin industries tend to have products that have high IP content and/or low input costs, while low gross margin industries tend to have high input and conversion costs.

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	19.1%	19.0%	16.9%	20.2%	21.4%	22.1%	21.0%	21.7%	22.4%	21.7%	21.9%	22.0%	20.9%
AUTOMOTIVE	19.1%	18.7%	17.4%	18.4%	19.1%	19.8%	20.2%	19.3%	19.1%	18.7%	17.9%	18.6%	18.8%
CHEMICALS	29.9%	29.7%	28.5%	28.3%	29.1%	29.7%	29.1%	27.5%	25.1%	24.8%	24.7%	25.5%	27.5%
CONSTRUCTION	25.0%	25.2%	24.8%	25.6%	26.0%	25.5%	24.7%	24.7%	25.9%	26.0%	26.3%	26.5%	25.6%
CONSUMER GOODS	48.6%	48.5%	48.4%	49.4%	49.1%	48.8%	48.6%	48.4%	48.1%	47.7%	47.2%	47.5%	48.3%
ENERGY / UTILITIES	31.8%	31.6%	34.3%	33.1%	32.3%	33.7%	34.8%	32.1%	29.3%	28.9%	28.8%	31.1%	31.8%
FOOD AND BEVERAGE	35.7%	35.8%	36.0%	36.4%	36.3%	36.5%	36.2%	35.6%	35.1%	35.1%	35.5%	35.6%	35.8%
HITECH ELECTRONICS	30.1%	29.8%	28.2%	27.7%	29.0%	29.2%	28.4%	28.2%	28.0%	27.8%	27.5%	26.6%	28.2%
HITECH SEMICONDUCTORS	47.7%	47.2%	45.4%	45.8%	49.0%	48.0%	45.3%	46.1%	46.1%	43.6%	42.5%	44.0%	45.7%
INDUSTRIALS	26.6%	26.7%	26.1%	26.6%	27.5%	27.5%	27.7%	28.0%	27.0%	26.5%	27.1%	27.8%	27.1%
MATERIALS / MINING	30.7%	30.4%	26.1%	24.0%	24.8%	24.5%	23.0%	19.5%	22.5%	22.6%	23.2%	28.0%	24.4%
MEDICAL EQUIPMENT	54.1%	53.9%	52.8%	53.6%	53.5%	53.6%	53.4%	52.8%	52.6%	52.5%	52.3%	52.2%	53.0%
OIL AND GAS	22.2%	22.3%	17.4%	21.5%	22.2%	21.0%	20.3%	19.3%	19.5%	20.5%	21.1%	23.5%	20.8%
PHARMACEUTICALS	67.2%	67.2%	67.2%	67.9%	67.6%	68.4%	68.8%	68.1%	67.9%	67.5%	68.3%	68.3%	67.9%
RESTAURANTS	32.8%	32.5%	30.2%	32.8%	33.2%	32.8%	32.1%	31.4%	30.7%	28.7%	27.9%	29.8%	31.1%
RETAIL	26.9%	26.5%	26.6%	26.8%	26.7%	26.8%	26.4%	25.6%	25.4%	25.5%	25.8%	25.8%	26.2%
TELECOMMUNICATIONS	57.6%	57.6%	58.3%	57.7%	56.5%	54.0%	54.5%	54.9%	55.4%	56.8%	56.9%	57.2%	56.3%
TRANSPORTATION	17.1%	16.4%	14.5%	21.6%	21.3%	22.0%	22.6%	22.4%	20.4%	20.7%	19.7%	21.4%	20.3%
WHOLESALE DISTRIBUTION	10.6%	10.7%	10.6%	11.1%	11.1%	11.1%	11.2%	11.3%	11.6%	11.6%	11.6%	11.5%	11.2%
ALL INDUSTRIES	29.8%	29.7%	28.6%	28.9%	29.2%	29.3%	29.3%	28.3%	27.5%	27.5%	27.8%	29.1%	28.6%

Notes:

- This is an aggregate view: industry-level aggregate gross margin = aggregate gross profit for the industry divided by aggregate revenue for the industry. Aggregate gross profit = aggregate revenue minus aggregate COGS.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
- "All Industries" is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and WorldLocity analysis.

Industry Supply Chains

EBITDA margin – ten-year history



NOTES & INSIGHTS

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	11.1%	11.1%	7.3%	11.3%	12.8%	15.5%	10.4%	11.3%	12.0%	12.3%	12.1%	11.9%	11.6%
AUTOMOTIVE	13.6%	14.0%	11.0%	11.9%	12.9%	13.5%	13.3%	12.5%	12.6%	12.2%	12.0%	12.7%	12.6%
CHEMICALS	17.9%	18.3%	14.5%	15.2%	17.7%	17.0%	16.3%	15.7%	13.8%	13.8%	13.0%	14.8%	15.5%
CONSTRUCTION	8.8%	8.8%	8.6%	9.1%	9.1%	9.7%	8.5%	8.2%	8.5%	8.1%	6.8%	7.7%	8.4%
CONSUMER GOODS	18.4%	18.9%	16.7%	17.3%	17.1%	17.0%	17.2%	16.8%	17.8%	16.9%	16.5%	16.8%	17.2%
ENERGY / UTILITIES	23.4%	23.3%	25.7%	25.8%	24.5%	25.7%	26.2%	23.5%	21.5%	20.7%	19.6%	21.7%	23.5%
FOOD AND BEVERAGE	16.9%	16.9%	16.4%	17.3%	16.5%	19.1%	17.8%	16.4%	15.8%	16.6%	16.5%	16.5%	16.9%
HITECH ELECTRONICS	19.1%	19.6%	15.8%	15.8%	17.1%	16.2%	15.7%	16.2%	15.8%	15.0%	14.0%	13.6%	15.9%
HITECH SEMICONDUCTORS	39.2%	40.4%	37.0%	36.1%	38.9%	36.7%	30.1%	32.3%	31.7%	28.5%	25.4%	30.0%	33.4%
INDUSTRIALS	13.7%	14.1%	12.5%	13.6%	13.2%	13.7%	12.8%	12.9%	12.7%	12.5%	13.0%	14.0%	13.2%
MATERIALS / MINING	22.2%	22.6%	17.6%	16.8%	18.4%	18.5%	15.7%	7.7%	13.8%	10.8%	13.3%	19.9%	15.9%
MEDICAL EQUIPMENT	26.0%	26.3%	23.2%	22.0%	21.2%	21.0%	21.6%	19.2%	19.3%	19.5%	17.7%	19.5%	21.0%
OIL AND GAS	18.2%	18.4%	9.2%	16.9%	17.8%	16.6%	14.2%	11.0%	14.8%	16.5%	16.9%	18.2%	15.5%
PHARMACEUTICALS	30.4%	30.5%	26.9%	29.5%	28.5%	27.5%	29.2%	30.9%	31.2%	29.3%	28.4%	29.0%	29.2%
RESTAURANTS	19.1%	19.4%	14.8%	19.0%	19.4%	19.2%	18.0%	17.1%	16.5%	15.2%	16.9%	17.0%	17.5%
RETAIL	8.7%	9.1%	8.7%	8.0%	7.4%	7.8%	8.0%	7.5%	7.8%	7.9%	8.0%	8.0%	8.0%
TELECOMMUNICATIONS	37.9%	38.1%	33.4%	34.1%	32.3%	31.3%	30.8%	30.6%	29.6%	31.8%	30.6%	31.6%	32.2%
TRANSPORTATION	11.3%	11.5%	8.3%	16.9%	15.7%	16.4%	16.1%	16.4%	14.3%	14.1%	13.3%	14.3%	14.3%
WHOLESALE DISTRIBUTION	2.8%	2.8%	2.0%	3.2%	3.0%	3.8%	3.6%	3.3%	3.6%	3.4%	3.5%	3.6%	3.3%
ALL INDUSTRIES	17.0%	17.4%	14.3%	16.0%	16.2%	16.4%	15.5%	14.2%	14.9%	15.0%	15.0%	16.3%	15.6%

- At an aggregate level in all industries, EBITDA margin has been remarkably consistent across the past decade. Some industries saw significant compression in 2020, due to the impact of the pandemic. This is particularly true for transportation, which includes air travel companies.
- Consistency of EBITDA margin indicates that most industries have operating models driven by structural constraints.
- This also indicates that improvements that companies have put in place have largely accrued to their customers.
- Investments in the past ten years have been about maintaining or growing market share while preserving existing operating models.

Notes:

- This is an aggregate view: industry-level EBITDA margin = aggregate EBITDA divided by aggregate revenue.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
- "All Industries" is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and WorldLocality analysis.

Industry Supply Chains

Operating profit margin – ten-year history



NOTES & INSIGHTS

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	5.6%	5.5%	3.1%	6.9%	9.1%	9.7%	8.2%	9.2%	9.5%	8.4%	8.4%	7.9%	7.8%
AUTOMOTIVE	6.9%	6.2%	4.2%	5.7%	6.5%	7.1%	7.2%	6.5%	6.6%	6.3%	5.3%	6.6%	6.2%
CHEMICALS	12.0%	11.6%	8.2%	9.6%	11.5%	11.4%	10.9%	10.2%	8.8%	8.6%	8.6%	9.7%	9.9%
CONSTRUCTION	6.5%	6.6%	5.7%	6.2%	6.8%	6.4%	5.6%	5.5%	5.5%	5.2%	4.8%	5.0%	5.8%
CONSUMER GOODS	13.6%	13.2%	11.9%	13.9%	13.8%	13.7%	13.7%	13.5%	13.9%	13.8%	13.5%	13.9%	13.5%
ENERGY / UTILITIES	12.4%	12.4%	13.0%	12.8%	12.8%	13.8%	14.0%	12.5%	11.1%	10.5%	10.5%	12.4%	12.3%
FOOD AND BEVERAGE	13.5%	13.6%	12.9%	13.4%	13.5%	13.5%	13.1%	12.5%	12.3%	12.6%	12.4%	12.9%	13.0%
HITECH ELECTRONICS	13.3%	12.8%	10.0%	9.5%	11.2%	11.1%	10.1%	10.8%	10.1%	9.9%	9.7%	8.7%	10.4%
HITECH SEMICONDUCTORS	26.0%	25.2%	21.2%	21.2%	26.0%	23.0%	18.4%	19.8%	20.4%	16.1%	14.7%	19.1%	20.4%
INDUSTRIALS	8.9%	8.6%	7.5%	8.9%	9.0%	8.7%	8.8%	9.0%	8.4%	7.9%	9.6%	10.7%	8.8%
MATERIALS / MINING	18.7%	18.3%	12.7%	11.6%	12.5%	11.6%	8.7%	6.0%	10.0%	9.5%	10.2%	15.9%	11.5%
MEDICAL EQUIPMENT	18.1%	18.0%	15.1%	14.5%	14.6%	14.3%	15.2%	14.5%	14.1%	14.7%	14.8%	14.9%	15.0%
OIL AND GAS	8.8%	8.7%	1.1%	8.4%	9.9%	7.3%	4.3%	4.8%	8.3%	9.6%	10.4%	12.6%	7.8%
PHARMACEUTICALS	22.5%	22.4%	20.1%	22.2%	20.6%	22.5%	23.6%	22.4%	22.1%	21.8%	22.4%	22.7%	22.1%
RESTAURANTS	12.0%	11.6%	8.4%	13.1%	13.6%	14.3%	13.5%	12.9%	12.6%	12.7%	12.8%	12.7%	12.6%
RETAIL	5.6%	4.8%	4.9%	4.9%	5.1%	5.3%	5.5%	5.2%	5.5%	5.7%	5.7%	5.9%	5.3%
TELECOMMUNICATIONS	15.3%	15.5%	15.3%	16.3%	15.0%	14.6%	14.3%	14.6%	14.0%	17.5%	15.7%	16.3%	15.4%
TRANSPORTATION	5.4%	4.7%	2.2%	9.5%	9.4%	9.9%	10.3%	10.4%	8.5%	8.4%	7.0%	7.8%	8.0%
WHOLESALE DISTRIBUTION	2.7%	2.7%	2.4%	2.7%	2.6%	2.7%	2.8%	2.7%	2.8%	2.8%	2.8%	3.0%	2.7%
ALL INDUSTRIES	10.5%	10.2%	7.9%	9.5%	10.1%	9.8%	9.2%	8.8%	9.3%	9.5%	9.6%	11.0%	9.5%

- At an aggregate level in all industries, operating margin has been remarkably consistent across the past decade. Some industries saw significant compression in 2020, due to the impact of the pandemic. This is particularly true for transportation, which includes air travel companies.
- Consistency of operating margin indicates that most industries have operating models driven by structural constraints.
- This also indicates that improvements that companies have put in place have largely accrued to their customers.
- Investments in the past ten years have been about maintaining or growing market share while preserving existing operating models.

Notes:

- This is an aggregate view: industry-level operating margin = aggregate operating profit divided by aggregate revenue.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
- "All Industries" is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and WorldLocity analysis.

Industry Supply Chains

Net profit margin – ten-year history



NOTES & INSIGHTS

- At an aggregate level in all industries, net profit margin has been remarkably consistent across the past decade. Some industries saw significant compression in 2020, due to the impact of the pandemic. This is particularly true for transportation, which includes air travel companies.
- When aggregated over all industries, aggregate net profit margin is significantly above its pre-pandemic level and the highest for the past decade. Some industries, notably transportation, have not completely rebounded to their pre-pandemic levels.

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	3.9%	3.8%	-0.4%	4.5%	7.2%	7.7%	4.6%	5.1%	5.5%	5.7%	5.3%	5.0%	4.9%
AUTOMOTIVE	5.0%	4.3%	1.8%	3.6%	5.0%	4.7%	4.8%	4.7%	4.8%	4.6%	4.6%	5.5%	4.4%
CHEMICALS	9.0%	8.6%	3.8%	6.5%	9.5%	8.7%	6.8%	6.5%	5.3%	5.5%	4.6%	5.8%	6.5%
CONSTRUCTION	4.5%	4.5%	3.7%	4.1%	3.9%	4.7%	2.6%	3.2%	3.4%	2.6%	2.2%	2.6%	3.4%
CONSUMER GOODS	8.9%	8.3%	6.4%	7.0%	8.5%	9.9%	9.2%	8.2%	9.8%	9.2%	8.7%	8.6%	8.5%
ENERGY / UTILITIES	5.5%	5.6%	5.8%	7.5%	6.6%	7.6%	5.2%	4.4%	5.1%	3.2%	3.1%	4.7%	5.3%
FOOD AND BEVERAGE	8.4%	8.5%	7.2%	7.9%	8.0%	11.2%	8.3%	7.8%	8.0%	8.5%	7.9%	7.9%	8.3%
HITECH ELECTRONICS	11.1%	10.7%	7.5%	7.3%	7.9%	7.3%	7.3%	7.8%	7.9%	6.3%	2.9%	5.6%	7.1%
HITECH SEMICONDUCTORS	23.1%	22.3%	18.8%	17.5%	22.0%	17.6%	13.4%	16.5%	16.2%	12.7%	10.0%	14.1%	16.5%
INDUSTRIALS	5.9%	5.5%	4.9%	5.8%	5.9%	5.2%	5.1%	5.2%	5.7%	5.3%	5.0%	5.6%	5.4%
MATERIALS / MINING	11.4%	10.8%	5.2%	5.4%	7.4%	7.7%	3.2%	-2.8%	2.5%	0.5%	3.7%	8.9%	4.8%
MEDICAL EQUIPMENT	16.0%	15.8%	11.6%	11.4%	9.4%	9.2%	10.5%	9.9%	10.0%	10.2%	9.4%	10.4%	10.7%
OIL AND GAS	5.4%	5.3%	-5.9%	4.4%	6.0%	4.5%	0.7%	-1.0%	4.4%	6.4%	6.7%	8.1%	3.6%
PHARMACEUTICALS	15.3%	15.2%	12.0%	17.2%	15.5%	11.6%	14.3%	18.0%	16.4%	16.6%	14.9%	14.7%	15.1%
RESTAURANTS	8.3%	7.8%	3.8%	10.7%	9.8%	8.6%	8.5%	8.1%	7.2%	6.5%	7.7%	8.0%	7.9%
RETAIL	4.2%	3.7%	3.4%	3.0%	2.7%	2.9%	3.5%	2.7%	3.2%	3.4%	3.3%	3.4%	3.2%
TELECOMMUNICATIONS	10.1%	11.1%	5.3%	7.2%	8.3%	10.1%	6.4%	7.4%	13.7%	7.8%	6.4%	6.8%	8.2%
TRANSPORTATION	3.2%	1.9%	-3.9%	5.8%	6.3%	7.4%	5.9%	6.5%	4.9%	4.8%	3.3%	4.5%	4.3%
WHOLESALE DISTRIBUTION	1.0%	0.9%	0.2%	1.3%	1.3%	1.7%	1.7%	1.2%	1.5%	1.4%	1.6%	1.7%	1.3%
ALL INDUSTRIES	7.1%	6.8%	3.4%	5.8%	6.5%	6.4%	5.1%	4.4%	5.8%	5.5%	5.3%	6.5%	5.6%

Notes:

- This is an aggregate view: industry-level operating margin = aggregate operating profit divided by aggregate revenue.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
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- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

SG&A % revenue – ten-year history



NOTES & INSIGHTS

- At an aggregate level in all industries, SG&A expense has been remarkably consistent across the past decade. Consumer goods, medical equipment, pharmaceuticals, telco, and food and beverage are the perennial leaders in SG&A. These industries have large advertising and promotions budgets, along with large sales/account teams.
- SG&A has a significant impact on supply chain operations, with leading companies increasingly synchronizing their sales activities with their supply chains.
- Commodity and service-oriented supply chains such as transportation, wholesale, oil and gas, and materials must keep their selling and administrative costs low due to their low gross margins.

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	8.5%	8.5%	8.9%	8.3%	6.9%	7.3%	7.3%	7.2%	7.4%	7.6%	7.6%	8.0%	7.7%
AUTOMOTIVE	9.0%	9.1%	9.6%	9.2%	9.0%	9.1%	9.4%	9.1%	9.1%	8.9%	9.1%	9.1%	9.1%
CHEMICALS	12.9%	12.9%	14.3%	13.8%	13.2%	13.6%	13.0%	12.6%	11.5%	11.4%	11.3%	10.8%	12.6%
CONSTRUCTION	9.0%	9.1%	9.4%	9.8%	10.0%	12.0%	9.5%	9.4%	9.9%	10.7%	10.6%	10.6%	10.1%
CONSUMER GOODS	31.5%	31.7%	33.0%	32.5%	32.3%	32.9%	32.6%	32.8%	31.8%	31.4%	31.2%	31.5%	32.1%
ENERGY / UTILITIES	7.8%	7.9%	8.4%	7.8%	8.0%	8.0%	7.5%	7.0%	7.0%	7.3%	7.4%	7.4%	7.6%
FOOD AND BEVERAGE	19.0%	19.0%	19.8%	19.7%	19.6%	19.9%	20.1%	19.6%	18.9%	18.6%	19.2%	18.6%	19.4%
HITECH ELECTRONICS	10.9%	11.0%	12.0%	12.2%	11.9%	12.5%	12.7%	12.4%	12.7%	12.8%	12.8%	11.4%	12.2%
HITECH SEMICONDUCTORS	7.7%	7.8%	8.5%	8.9%	8.4%	9.3%	10.2%	10.1%	10.1%	11.3%	12.0%	11.1%	9.8%
INDUSTRIALS	13.5%	13.8%	14.3%	13.7%	14.1%	15.0%	14.9%	14.4%	14.2%	14.3%	13.9%	12.4%	14.1%
MATERIALS / MINING	6.2%	6.3%	7.0%	6.9%	7.0%	7.2%	7.9%	7.5%	6.9%	7.0%	6.9%	6.7%	7.0%
MEDICAL EQUIPMENT	27.3%	27.3%	28.9%	30.3%	30.1%	30.4%	29.6%	30.0%	30.5%	29.9%	29.5%	28.8%	29.6%
OIL AND GAS	5.0%	5.0%	5.9%	4.6%	4.5%	5.0%	5.9%	5.3%	4.0%	3.9%	3.9%	3.8%	4.7%
PHARMACEUTICALS	24.9%	24.9%	26.6%	27.4%	28.0%	27.6%	27.3%	28.1%	28.0%	27.8%	28.1%	27.9%	27.4%
RESTAURANTS	8.8%	8.9%	8.9%	8.0%	7.8%	7.1%	7.1%	7.1%	6.7%	6.6%	6.7%	7.4%	7.5%
RETAIL	17.6%	17.9%	17.7%	17.6%	17.4%	17.6%	16.8%	16.4%	15.8%	15.3%	15.3%	15.5%	16.7%
TELECOMMUNICATIONS	19.1%	18.9%	19.2%	19.4%	19.3%	20.2%	20.7%	21.5%	22.2%	21.8%	23.8%	23.8%	21.0%
TRANSPORTATION	5.7%	5.6%	6.3%	6.2%	6.3%	6.2%	6.5%	6.4%	6.2%	6.7%	6.7%	6.9%	6.4%
WHOLESALE DISTRIBUTION	5.8%	5.8%	5.8%	5.9%	5.9%	5.8%	5.9%	6.3%	6.1%	6.1%	5.9%	5.5%	5.9%
ALL INDUSTRIES	12.6%	12.7%	13.5%	12.6%	12.4%	13.1%	13.3%	12.8%	11.9%	11.7%	11.7%	11.5%	12.5%

Notes:

- This is an aggregate view: industry-level SG&A = aggregate SG&A divided by aggregate revenue.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
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Industry Supply Chains

Inventory turns – ten-year history

NOTES & INSIGHTS

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	2.4	2.4	2.4	2.6	2.7	2.6	3.1	2.8	2.9	2.9	3.0	3.3	2.8
AUTOMOTIVE	6.4	6.4	6.2	6.7	6.8	6.7	7.1	7.4	7.6	7.6	7.4	7.4	7.0
CHEMICALS	4.6	4.6	4.5	4.6	4.7	4.2	5.2	5.3	5.6	5.6	5.5	5.8	5.0
CONSTRUCTION	3.7	3.6	3.8	4.0	4.0	3.6	3.4	3.4	3.7	3.8	3.9	4.0	3.8
CONSUMER GOODS	2.8	2.8	2.8	3.0	3.1	3.1	3.1	3.2	3.3	3.2	3.4	3.5	3.1
ENERGY / UTILITIES	10.0	10.3	9.7	10.1	10.4	10.0	11.5	11.8	12.9	12.4	12.4	12.4	11.3
FOOD AND BEVERAGE	4.8	4.8	4.7	4.9	5.1	5.0	5.1	5.3	5.4	5.2	5.0	5.1	5.1
HITECH ELECTRONICS	6.0	6.2	6.5	7.2	6.8	7.0	7.8	8.2	7.7	8.5	8.0	7.4	7.4
HITECH SEMICONDUCTORS	3.5	3.5	3.4	3.5	3.7	3.7	3.9	3.9	4.1	4.0	4.0	4.3	3.8
INDUSTRIALS	4.6	4.6	4.7	5.0	4.8	4.8	4.8	4.5	4.5	4.7	4.7	4.7	4.7
MATERIALS / MINING	4.3	4.4	4.5	4.9	4.8	4.8	4.8	5.4	5.2	5.2	5.1	4.9	4.9
MEDICAL EQUIPMENT	3.4	3.4	3.3	3.5	3.5	3.6	3.7	3.4	3.6	3.4	3.5	3.6	3.5
OIL AND GAS	9.5	9.6	9.6	11.1	12.1	10.3	9.4	11.9	13.8	11.5	11.4	11.4	11.1
PHARMACEUTICALS	2.1	2.1	2.0	2.0	2.2	2.1	2.2	2.2	2.3	2.2	2.2	2.4	2.2
RESTAURANTS	26.3	26.4	26.3	28.8	28.2	28.3	29.4	30.1	28.2	31.0	27.1	33.6	28.9
RETAIL	7.3	7.9	7.7	7.2	7.3	7.1	7.1	7.3	7.4	7.6	7.6	7.6	7.4
TELECOMMUNICATIONS	21.4	21.4	21.9	21.2	21.1	24.1	24.0	23.7	24.5	25.2	25.4	26.1	23.5
TRANSPORTATION	21.3	21.4	23.0	25.6	26.9	25.2	25.7	26.3	23.5	26.6	25.6	24.1	24.9
WHOLESALE DISTRIBUTION	9.6	9.6	9.9	9.9	9.7	9.8	9.8	9.9	9.7	10.2	10.7	10.4	10.0
ALL INDUSTRIES	5.9	6.0	5.9	6.4	6.5	6.3	6.4	6.7	7.1	7.0	6.9	7.0	6.6

- At an aggregate level in all industries, all 19 industries have inventory turns (on a TTM basis) that are below their 2010-2020 average; All 19 industries also have inventory turns today that are below their averages in 2011.
- While there is much discussion about supply chains becoming “too lean,” inventory numbers do not support that assertion.
- This also indicates that improvements that companies have put in place have largely accrued to their customers.
- Investments in the past ten years have been about maintaining or growing market share while preserving existing operating models.

Notes:

- This is an aggregate view: industry-level industry turns = aggregate COGS divided by aggregate inventory.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
- “All Industries” is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Asset intensity: PP&E (net) / revenue – ten-year history



NOTES & INSIGHTS

- There has been a general slight uptick in fixed asset intensity in the past ten years, which seems counter to the thesis that companies are moving to asset-light models or that digitization is replacing physical assets.
- In some industries, recent upticks can probably be explained by a significant drop-off in revenue due to the pandemic and other factors. This is particularly true for oil and gas, restaurants, transportation, automotive, and A&D.
- Furthermore, companies started adopting accounting rule IFRS 16 in 2019. This rule requires that companies account for lease and “right-of-use” assets on their balance sheets. This gives a more accurate view of their use of assets. For some companies in some industries, this had a significant impact. For example, consumer goods asset intensity grew from 21.0% in 2018 to 27.0% in 2019 due to this accounting rule change.

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	23.9%	23.9%	25.4%	22.3%	20.4%	20.1%	18.4%	18.4%	17.6%	17.8%	17.0%	16.5%	19.8%
AUTOMOTIVE	38.3%	39.4%	42.6%	37.6%	35.4%	36.4%	35.1%	32.3%	30.0%	30.0%	29.5%	28.3%	34.2%
CHEMICALS	45.4%	46.3%	54.4%	49.1%	44.0%	49.5%	47.5%	42.9%	37.9%	37.6%	36.9%	36.5%	43.9%
CONSTRUCTION	12.6%	12.7%	13.7%	12.9%	11.6%	12.5%	12.2%	12.4%	12.6%	14.1%	14.9%	15.6%	13.2%
CONSUMER GOODS	31.0%	31.9%	34.0%	28.1%	21.4%	21.7%	21.2%	19.8%	20.2%	21.0%	20.4%	20.0%	23.6%
ENERGY / UTILITIES	197.4%	196.4%	213.6%	200.3%	183.8%	190.3%	182.2%	164.9%	145.9%	147.4%	145.9%	139.8%	173.7%
FOOD AND BEVERAGE	29.3%	29.5%	31.8%	30.5%	28.7%	29.7%	28.4%	26.8%	26.5%	26.4%	27.1%	26.8%	28.4%
HITECH ELECTRONICS	20.0%	20.5%	22.8%	21.0%	20.6%	21.4%	19.8%	18.5%	19.6%	19.1%	20.2%	20.2%	20.3%
HITECH SEMICONDUCTORS	49.8%	50.9%	57.7%	56.7%	45.9%	46.7%	46.5%	43.1%	42.7%	47.2%	46.2%	41.1%	47.7%
INDUSTRIALS	27.5%	28.4%	31.2%	27.3%	26.3%	28.3%	28.7%	27.2%	25.9%	26.4%	26.4%	26.5%	27.5%
MATERIALS / MINING	68.7%	70.3%	80.1%	74.1%	70.1%	80.1%	89.9%	82.9%	77.4%	78.3%	73.1%	65.1%	76.5%
MEDICAL EQUIPMENT	24.1%	24.3%	26.4%	24.6%	21.9%	21.5%	20.5%	21.4%	20.4%	22.2%	21.8%	21.6%	22.4%
OIL AND GAS	87.6%	88.6%	111.1%	85.5%	75.5%	93.0%	108.5%	89.7%	66.8%	65.1%	61.3%	55.6%	81.9%
PHARMACEUTICALS	27.0%	27.1%	30.4%	29.6%	28.6%	28.3%	27.7%	27.3%	27.0%	28.5%	28.4%	27.3%	28.2%
RESTAURANTS	70.0%	71.1%	77.0%	55.1%	39.4%	38.5%	37.7%	40.7%	44.3%	43.7%	43.0%	44.6%	48.6%
RETAIL	26.3%	27.5%	28.6%	23.3%	21.3%	21.0%	20.9%	20.6%	21.4%	21.5%	22.2%	22.3%	22.8%
TELECOMMUNICATIONS	86.5%	87.5%	91.5%	84.4%	72.1%	73.2%	73.4%	69.9%	68.3%	68.7%	69.8%	68.1%	75.2%
TRANSPORTATION	103.3%	105.5%	113.8%	90.0%	84.0%	85.0%	85.9%	79.2%	76.8%	78.0%	80.7%	81.2%	87.3%
WHOLESALE DISTRIBUTION	5.5%	5.6%	6.0%	5.5%	4.7%	4.7%	4.5%	4.3%	4.7%	4.6%	4.4%	4.2%	4.8%
ALL INDUSTRIES	52.6%	53.7%	59.3%	53.3%	49.2%	52.9%	54.1%	50.6%	47.5%	48.0%	47.5%	45.5%	51.1%

Notes:

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Industry Supply Chains

Asset intensity: physical assets / revenue – ten-year history



NOTES & INSIGHTS

- There has been a general uptick in physical asset intensity in the past ten years, which seems counter to the thesis that companies are moving to asset-light models or that digitization is replacing physical assets.
- In some industries, recent upticks can probably be explained by a significant drop-off in revenue due to the pandemic and other factors. This is particularly true for oil and gas, restaurants, transportation, automotive, and A&D.
- Furthermore, companies started adopting accounting rule IFRS 16 in 2019. This rule requires that companies account for lease and “right-of-use” assets on their balance sheets. This gives a more accurate view of their use of assets. For some companies in some industries, this had a significant impact. For example, consumer goods asset intensity grew from 54% in 2018 to 61% in 2019 due to this accounting rule change.

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	65.5%	65.6%	68.1%	61.8%	57.8%	58.8%	50.3%	54.1%	51.7%	52.2%	50.2%	47.2%	56.2%
AUTOMOTIVE	54.0%	55.1%	58.6%	52.5%	50.2%	51.4%	49.2%	45.9%	43.2%	43.3%	43.1%	41.8%	48.6%
CHEMICALS	67.3%	68.1%	76.9%	70.6%	65.5%	73.5%	68.1%	61.9%	55.6%	55.6%	55.3%	54.3%	64.1%
CONSTRUCTION	42.2%	42.5%	42.5%	40.7%	39.2%	43.1%	43.9%	43.8%	41.0%	41.6%	42.2%	42.2%	42.1%
CONSUMER GOODS	66.6%	67.4%	70.1%	61.6%	54.0%	54.4%	53.7%	51.1%	51.1%	52.2%	50.4%	48.8%	55.9%
ENERGY / UTILITIES	207.5%	206.2%	224.2%	210.5%	193.6%	200.4%	190.9%	173.5%	153.7%	155.5%	153.9%	147.8%	182.8%
FOOD AND BEVERAGE	50.3%	50.4%	53.3%	50.8%	48.5%	49.7%	48.1%	45.5%	45.1%	45.5%	47.2%	46.4%	48.2%
HITECH ELECTRONICS	36.7%	36.6%	38.2%	34.9%	35.3%	35.8%	32.6%	31.1%	32.5%	30.9%	33.3%	33.8%	34.1%
HITECH SEMICONDUCTORS	78.4%	79.6%	87.6%	85.0%	73.8%	73.7%	72.2%	68.9%	67.2%	72.3%	71.0%	64.2%	74.1%
INDUSTRIALS	49.5%	50.3%	52.4%	47.2%	47.0%	49.3%	49.8%	49.4%	48.1%	47.7%	48.0%	48.0%	48.8%
MATERIALS / MINING	92.0%	93.2%	102.4%	94.5%	91.1%	101.2%	110.9%	101.5%	96.7%	97.8%	92.9%	85.4%	97.1%
MEDICAL EQUIPMENT	55.8%	56.0%	59.1%	55.5%	52.1%	51.4%	49.6%	52.4%	49.2%	52.8%	51.8%	50.8%	52.8%
OIL AND GAS	98.3%	99.2%	121.7%	94.6%	83.8%	102.9%	119.2%	98.2%	74.2%	73.9%	70.1%	64.4%	91.1%
PHARMACEUTICALS	73.8%	73.9%	81.0%	78.9%	75.8%	75.9%	74.2%	72.9%	71.1%	73.9%	73.9%	68.8%	74.6%
RESTAURANTS	73.9%	75.0%	80.9%	58.7%	43.1%	42.2%	41.1%	44.0%	47.8%	47.0%	46.8%	48.0%	52.2%
RETAIL	40.0%	40.2%	41.7%	37.1%	35.0%	35.2%	35.2%	34.3%	35.0%	34.7%	35.3%	35.6%	36.3%
TELECOMMUNICATIONS	91.3%	92.2%	96.9%	90.0%	77.7%	78.0%	78.2%	74.8%	72.9%	73.1%	74.1%	72.4%	80.0%
TRANSPORTATION	108.5%	110.7%	118.6%	94.3%	88.1%	89.3%	90.0%	83.3%	81.3%	81.9%	84.7%	85.5%	91.6%
WHOLESALE DISTRIBUTION	16.0%	16.0%	16.1%	15.6%	15.0%	15.0%	14.7%	14.5%	14.9%	14.4%	14.1%	13.8%	14.9%
ALL INDUSTRIES	64.5%	65.5%	71.4%	64.5%	60.1%	64.3%	65.2%	61.3%	57.8%	58.4%	58.0%	55.7%	62.0%

Notes:

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- “All Industries” is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Asset intensity: CAPEX / revenue – ten-year history



NOTES & INSIGHTS

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	3.1%	3.1%	3.4%	3.8%	3.8%	3.9%	4.0%	4.1%	4.2%	4.4%	4.2%	3.5%	3.8%
AUTOMOTIVE	7.3%	7.4%	7.6%	7.6%	7.4%	7.7%	7.8%	7.8%	7.1%	7.1%	6.7%	6.1%	7.3%
CHEMICALS	5.8%	5.9%	6.6%	6.7%	6.1%	6.0%	6.4%	6.3%	6.1%	5.9%	5.5%	4.8%	6.0%
CONSTRUCTION	2.7%	2.7%	3.0%	2.6%	2.6%	2.6%	2.5%	2.8%	2.9%	3.1%	3.7%	4.3%	3.0%
CONSUMER GOODS	3.5%	3.5%	3.9%	4.4%	4.5%	4.3%	4.6%	4.4%	4.5%	4.3%	4.1%	4.1%	4.2%
ENERGY / UTILITIES	16.9%	16.8%	18.4%	17.7%	16.0%	15.8%	16.4%	15.3%	13.5%	13.3%	13.3%	13.2%	15.4%
FOOD AND BEVERAGE	3.9%	3.9%	4.2%	4.5%	4.5%	4.4%	4.4%	5.0%	4.6%	4.5%	4.4%	4.3%	4.4%
HITECH ELECTRONICS	5.0%	5.2%	5.1%	5.2%	5.6%	6.4%	5.6%	5.3%	5.1%	5.1%	5.7%	5.9%	5.5%
HITECH SEMICONDUCTORS	15.1%	15.4%	14.6%	16.8%	15.3%	13.6%	13.6%	12.6%	13.1%	13.2%	15.0%	14.1%	14.3%
INDUSTRIALS	3.8%	3.9%	4.1%	4.2%	4.3%	4.3%	4.6%	4.7%	4.5%	4.8%	4.9%	4.4%	4.4%
MATERIALS / MINING	7.0%	7.2%	7.9%	7.6%	7.0%	6.6%	7.6%	9.2%	9.4%	11.7%	11.7%	9.5%	8.7%
MEDICAL EQUIPMENT	5.5%	5.5%	5.5%	5.5%	5.1%	5.0%	4.7%	4.7%	4.7%	4.6%	4.8%	4.7%	5.0%
OIL AND GAS	7.4%	7.5%	9.8%	9.7%	9.0%	9.5%	11.4%	13.4%	11.7%	11.8%	11.2%	10.5%	10.5%
PHARMACEUTICALS	6.1%	6.1%	6.6%	5.8%	6.4%	5.9%	5.8%	6.1%	5.8%	5.6%	4.8%	4.5%	5.8%
RESTAURANTS	5.0%	5.0%	5.6%	6.0%	7.4%	5.9%	6.1%	6.0%	6.4%	6.6%	6.4%	5.7%	6.1%
RETAIL	3.3%	3.4%	3.3%	3.0%	2.9%	2.8%	2.8%	2.9%	2.9%	3.0%	3.2%	2.9%	3.0%
TELECOMMUNICATIONS	20.5%	20.4%	16.7%	16.5%	16.2%	17.1%	17.5%	18.6%	17.4%	17.2%	16.3%	16.0%	17.3%
TRANSPORTATION	8.0%	8.2%	9.0%	9.3%	10.0%	9.6%	9.9%	10.0%	9.1%	9.0%	9.2%	9.5%	9.3%
WHOLESALE DISTRIBUTION	0.7%	0.7%	0.7%	0.8%	0.8%	0.8%	0.8%	0.8%	0.9%	0.8%	0.9%	0.8%	0.8%
ALL INDUSTRIES	6.6%	6.7%	7.0%	7.1%	7.0%	7.1%	7.4%	7.9%	7.7%	7.9%	7.8%	7.4%	7.4%

- CAPEX is another way of looking at the asset intensity of industry. The thinking is that the higher the CAPEX, the higher the asset intensity.
- Average CAPEX across all industries currently stands at 7.0%, which is consistent with the average for the past ten years.
- CAPEX as a percentage of revenue has been largely unaffected by the pandemic. However, revenue in several industries has come down substantially; thus, CAPEX on an absolute basis has come down in lock step with revenue.

Notes:

1. This is an aggregate view: industry-level asset intensity = aggregate CAPEX divided by aggregate revenue.
2. Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
3. "All Industries" is the aggregate value for all industries (not the average of the percentages for each industry).
4. Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

ROIC – ten-year history



NOTES & INSIGHTS

- For the ten years through 2019, ROIC has been reasonably consistent across all industries. The year 2020 saw significant recession in ROIC in a number of industries, very likely the result of the impact of the pandemic. This includes distribution, transportation, restaurants, oil and gas, A&D, and automotive.
- Consumer Goods, Pharmaceuticals, Restaurants and the Hitech industries are the historical leaders in ROIC.

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	4.6%	4.5%	-0.5%	6.8%	11.7%	14.8%	9.9%	10.1%	11.5%	10.6%	11.5%	10.6%	9.2%
AUTOMOTIVE	4.9%	4.1%	1.6%	3.9%	5.7%	5.4%	5.6%	5.8%	6.2%	6.0%	6.4%	8.1%	5.3%
CHEMICALS	8.7%	8.2%	3.2%	6.1%	8.9%	7.8%	7.8%	8.0%	7.5%	7.4%	6.5%	8.4%	7.3%
CONSTRUCTION	6.2%	6.2%	4.9%	5.9%	6.0%	7.0%	3.9%	5.1%	5.5%	4.2%	3.5%	4.2%	5.1%
CONSUMER GOODS	9.3%	8.5%	6.3%	8.5%	10.9%	12.0%	12.0%	11.3%	13.6%	12.0%	11.8%	12.1%	10.8%
ENERGY / UTILITIES	2.8%	2.8%	2.7%	3.7%	3.5%	3.9%	2.8%	2.7%	3.4%	2.1%	2.1%	3.2%	3.0%
FOOD AND BEVERAGE	7.6%	7.7%	6.0%	7.0%	7.2%	9.8%	8.0%	8.6%	9.6%	10.0%	9.3%	9.5%	8.4%
HITECH ELECTRONICS	15.5%	14.7%	9.7%	9.9%	10.6%	9.2%	9.8%	11.6%	11.6%	9.6%	4.8%	8.7%	10.0%
HITECH SEMICONDUCTORS	15.9%	15.4%	12.1%	11.8%	17.6%	12.1%	9.1%	12.2%	13.2%	9.8%	8.1%	12.9%	12.2%
INDUSTRIALS	5.8%	5.3%	4.5%	6.0%	6.2%	5.2%	5.0%	5.2%	6.0%	5.5%	5.2%	6.0%	5.5%
MATERIALS / MINING	11.3%	10.5%	4.5%	5.1%	7.0%	7.0%	2.6%	-2.4%	2.4%	0.5%	3.6%	9.3%	4.5%
MEDICAL EQUIPMENT	9.9%	9.8%	6.7%	7.0%	5.9%	5.7%	7.1%	6.4%	7.9%	8.2%	7.7%	8.9%	7.4%
OIL AND GAS	5.1%	5.0%	-4.5%	4.5%	6.7%	4.1%	0.5%	-1.0%	5.8%	8.6%	9.4%	12.1%	4.7%
PHARMACEUTICALS	9.7%	9.6%	6.9%	10.0%	10.3%	7.2%	8.9%	11.6%	11.4%	11.5%	10.6%	11.1%	9.9%
RESTAURANTS	7.7%	7.2%	3.2%	13.5%	15.2%	13.5%	13.9%	12.2%	10.5%	10.6%	12.7%	14.2%	11.5%
RETAIL	9.3%	7.9%	7.3%	7.7%	7.3%	8.3%	9.7%	7.9%	9.2%	9.9%	9.6%	10.0%	8.6%
TELECOMMUNICATIONS	5.4%	5.9%	2.8%	4.3%	5.5%	6.8%	4.4%	5.5%	10.4%	5.9%	5.0%	5.5%	5.7%
TRANSPORTATION	2.5%	1.5%	-2.9%	5.7%	6.6%	7.7%	6.4%	7.6%	6.0%	5.8%	4.1%	5.4%	4.9%
WHOLESALE DISTRIBUTION	5.2%	4.9%	0.8%	6.4%	6.8%	8.5%	8.8%	6.1%	7.3%	7.4%	8.9%	9.6%	6.9%
ALL INDUSTRIES	7.0%	6.6%	3.1%	5.9%	7.0%	6.6%	5.2%	4.9%	7.0%	6.6%	6.5%	8.2%	6.2%

Notes:

- This is an aggregate view: industry ROIC = aggregate net income divided by aggregate invested capital for each industry. Aggregate invested capital = aggregate debt plus aggregate equity for each industry.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
- “All Industries” is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Revenue per employee (\$K) – ten-year history

NOTES & INSIGHTS

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	\$356.5	\$356.2	\$342.8	\$344.4	\$339.3	\$351.5	\$357.3	\$348.9	\$357.1	\$342.0	\$344.2	\$330.4	\$346.7
AUTOMOTIVE	\$385.7	\$374.7	\$350.0	\$366.8	\$371.3	\$362.9	\$355.8	\$363.1	\$392.8	\$399.4	\$402.6	\$406.0	\$376.8
CHEMICALS	\$543.4	\$532.2	\$462.8	\$478.2	\$475.5	\$461.3	\$464.5	\$493.8	\$617.8	\$620.7	\$633.2	\$636.4	\$534.2
CONSTRUCTION	\$396.8	\$395.5	\$359.6	\$347.5	\$333.8	\$327.2	\$301.8	\$311.2	\$319.7	\$332.6	\$329.4	\$317.5	\$334.1
CONSUMER GOODS	\$287.5	\$279.4	\$269.1	\$269.1	\$263.6	\$252.1	\$236.0	\$250.3	\$266.0	\$256.5	\$274.3	\$258.9	\$261.4
ENERGY / UTILITIES	\$588.9	\$591.4	\$596.5	\$611.8	\$651.2	\$663.1	\$651.3	\$694.1	\$808.3	\$817.0	\$887.3	\$871.7	\$713.1
FOOD AND BEVERAGE	\$298.7	\$298.0	\$276.3	\$280.5	\$279.8	\$274.4	\$264.2	\$269.1	\$274.7	\$289.5	\$288.2	\$297.3	\$281.1
HITECH ELECTRONICS	\$444.5	\$430.6	\$379.1	\$376.6	\$377.0	\$357.0	\$347.7	\$331.8	\$337.2	\$359.4	\$285.5	\$280.5	\$351.1
HITECH SEMICONDUCTORS	\$523.4	\$506.7	\$430.3	\$391.9	\$447.7	\$415.2	\$364.6	\$358.9	\$367.8	\$339.9	\$337.9	\$365.8	\$393.3
INDUSTRIALS	\$317.0	\$309.0	\$291.8	\$296.6	\$293.7	\$278.7	\$268.7	\$279.0	\$303.2	\$314.9	\$317.2	\$323.0	\$297.8
MATERIALS / MINING	\$537.2	\$525.1	\$464.1	\$487.7	\$470.8	\$441.5	\$372.2	\$402.9	\$468.7	\$480.5	\$439.1	\$470.2	\$456.6
MEDICAL EQUIPMENT	\$262.0	\$259.0	\$230.3	\$244.9	\$243.0	\$231.2	\$223.2	\$211.5	\$230.2	\$221.4	\$251.6	\$251.1	\$236.1
OIL AND GAS	\$1,010.4	\$999.8	\$788.7	\$1,026.8	\$1,056.4	\$885.7	\$798.3	\$937.0	\$1,230.1	\$1,482.2	\$1,427.9	\$1,369.8	\$1,091.1
PHARMACEUTICALS	\$572.5	\$570.7	\$497.7	\$480.5	\$457.3	\$463.8	\$448.2	\$445.6	\$464.2	\$467.5	\$473.5	\$484.0	\$477.6
RESTAURANTS	\$64.3	\$63.2	\$56.7	\$60.1	\$59.9	\$58.4	\$57.3	\$49.1	\$51.6	\$53.2	\$52.6	\$52.8	\$55.9
RETAIL	\$273.7	\$261.5	\$245.8	\$242.9	\$234.1	\$229.1	\$226.8	\$231.9	\$242.8	\$243.6	\$243.1	\$238.5	\$240.0
TELECOMMUNICATIONS	\$474.6	\$471.3	\$438.8	\$453.3	\$459.2	\$446.1	\$427.5	\$423.7	\$451.0	\$446.8	\$462.4	\$432.8	\$446.6
TRANSPORTATION	\$221.5	\$217.0	\$197.3	\$245.1	\$247.4	\$236.0	\$229.2	\$242.2	\$263.5	\$264.8	\$262.5	\$267.9	\$243.0
WHOLESALE DISTRIBUTION	\$1,061.2	\$1,039.7	\$985.4	\$964.3	\$968.8	\$946.0	\$1,035.1	\$999.9	\$1,063.8	\$1,051.7	\$1,093.7	\$1,116.8	\$1,024.1
ALL INDUSTRIES	\$389.5	\$381.5	\$346.8	\$366.5	\$367.0	\$348.9	\$332.6	\$346.4	\$393.6	\$407.7	\$403.1	\$398.0	\$372.0

- Revenue per employee has been relatively flat across the past ten years. This is consistent with what economists have been saying about productivity.
- However, this does not account for offshoring of labor to low-cost countries, which would increase headcount and lower the cost per head.
- Most productivity has been accruing to customers in the form of greater choice in product and services, which do not necessarily show up in revenue numbers and therefore do not show up in productivity numbers.

Notes:

- This is an aggregate view calculated as follows: the sum of all revenue for all companies in an industry divided by the sum of all employees for all companies in an industry. The average at the bottom is the average across all industries, not the aggregate average.
- "All Industries" is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Market cap / revenue – ten-year history

NOTES & INSIGHTS

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	1.6	1.6	1.7	1.5	1.8	1.5	1.6	1.2	1.1	1.1	1.2	0.9	1.4
AUTOMOTIVE	1.0	1.0	1.1	0.8	0.5	0.4	0.7	0.6	0.6	0.6	0.7	0.5	0.7
CHEMICALS	1.7	1.8	2.1	1.7	1.5	1.4	1.9	1.2	1.0	1.0	1.2	0.9	1.4
CONSTRUCTION	0.8	0.8	0.8	0.6	0.6	0.6	0.7	0.6	0.5	0.5	0.6	0.5	0.6
CONSUMER GOODS	3.3	3.4	3.6	3.1	2.7	2.3	2.9	2.3	2.2	2.5	2.7	2.2	2.7
ENERGY / UTILITIES	1.4	1.4	1.6	1.6	1.5	1.3	1.3	1.1	0.8	1.0	0.9	0.8	1.2
FOOD AND BEVERAGE	1.9	1.9	2.1	1.9	2.0	1.7	2.4	2.1	1.9	1.7	1.9	1.7	1.9
HITECH ELECTRONICS	2.5	2.6	2.9	2.7	1.9	1.5	1.9	1.4	1.2	1.3	1.2	1.1	1.8
HITECH SEMICONDUCTORS	6.9	7.1	8.7	6.8	4.3	3.5	5.2	3.8	3.0	3.6	3.1	2.4	4.7
INDUSTRIALS	1.4	1.4	1.5	1.3	1.2	1.1	1.5	1.2	1.0	1.0	1.1	0.9	1.2
MATERIALS / MINING	1.1	1.2	1.4	1.3	1.0	0.9	1.4	1.1	0.6	0.8	1.1	1.2	1.1
MEDICAL EQUIPMENT	5.8	5.9	6.9	5.9	4.8	4.1	4.2	3.4	3.4	3.0	2.6	2.1	4.2
OIL AND GAS	0.8	0.8	1.0	0.5	0.7	0.8	1.2	1.0	0.5	0.6	0.8	0.8	0.8
PHARMACEUTICALS	4.1	4.1	4.7	4.5	4.3	3.8	4.0	3.6	4.1	4.0	3.7	2.9	4.0
RESTAURANTS	3.3	3.4	3.7	2.9	2.7	2.3	2.5	2.2	2.3	2.1	2.0	1.8	2.5
RETAIL	1.3	1.4	1.5	1.6	1.2	1.0	1.1	0.9	0.9	0.9	0.8	0.7	1.1
TELECOMMUNICATIONS	1.3	1.3	1.3	1.4	1.4	1.3	1.4	1.3	1.2	1.3	1.4	1.1	1.3
TRANSPORTATION	1.5	1.5	1.6	1.1	1.0	1.0	1.3	1.0	0.9	1.1	1.0	0.8	1.1
WHOLESALE DISTRIBUTION	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.4
ALL INDUSTRIES	1.6	1.7	1.9	1.5	1.2	1.1	1.3	1.0	0.9	0.9	0.9	0.8	1.2

- Market cap multiples have risen in most industries in the past couple of years. This is particularly true in consumer goods, hitech, retail, and medical equipment. They currently sit significantly above their ten-year average across almost all industries. They have been relatively flat in construction, food and beverage, oil and gas, and wholesale distribution.

Notes:

- This is an aggregate view: industry-level asset market cap / revenue = aggregate market capitalization divided by aggregate revenue for each industry. Market cap is as of the last day of each year. TTM market cap is as of the day on the cover of this report.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
- “All Industries” is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and Worldlocity analysis.

Industry Supply Chains

Market cap / EBITDA – ten-year history

NOTES & INSIGHTS

INDUSTRY	TTM	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	Average
AEROSPACE AND DEFENSE	14.7	14.7	23.3	13.0	13.7	9.0	14.3	9.9	8.2	8.2	9.3	6.4	11.8
AUTOMOTIVE	7.2	7.2	9.8	6.2	3.4	3.1	4.3	3.4	3.5	3.7	4.0	3.0	4.7
CHEMICALS	9.7	9.7	14.2	10.6	7.3	7.4	8.1	6.1	5.4	5.5	5.8	4.4	7.7
CONSTRUCTION	8.8	8.8	9.7	6.2	5.8	5.1	5.4	4.6	3.8	4.2	4.7	3.5	5.6
CONSUMER GOODS	18.1	18.1	21.7	16.8	14.5	12.4	13.2	11.3	10.5	11.9	12.6	10.1	13.9
ENERGY / UTILITIES	6.1	6.1	6.1	5.7	5.4	4.5	4.1	3.7	3.4	3.9	3.6	3.0	4.5
FOOD AND BEVERAGE	11.5	11.5	12.8	10.6	11.0	8.3	11.0	10.4	10.0	8.6	8.8	7.9	10.1
HITECH ELECTRONICS	13.2	13.2	18.6	14.7	8.8	7.2	9.0	6.2	6.8	7.6	7.3	7.0	9.7
HITECH SEMICONDUCTORS	17.6	17.6	23.4	18.1	10.7	8.6	14.5	9.9	7.9	10.7	10.0	6.4	12.5
INDUSTRIALS	10.0	10.0	11.9	9.4	8.2	7.1	9.2	7.3	6.3	6.7	6.3	4.7	7.9
MATERIALS / MINING	5.1	5.1	7.7	6.9	5.0	4.6	6.4	9.7	3.2	5.5	5.4	4.3	5.8
MEDICAL EQUIPMENT	22.4	22.4	29.5	25.9	21.8	18.4	16.5	15.6	16.1	13.7	13.1	9.1	18.4
OIL AND GAS	4.3	4.3	10.9	3.0	4.0	4.9	7.3	7.6	3.0	3.6	4.1	3.7	5.1
PHARMACEUTICALS	13.6	13.6	17.4	14.8	14.4	13.6	12.9	11.0	12.3	12.8	11.9	8.9	13.1
RESTAURANTS	17.4	17.4	24.7	14.9	13.2	11.4	12.1	11.0	11.6	11.3	10.3	7.9	13.3
RETAIL	15.3	15.3	17.4	19.8	15.3	11.9	12.3	10.3	9.9	9.5	8.3	7.1	12.5
TELECOMMUNICATIONS	3.3	3.3	3.9	4.0	4.1	3.8	4.3	4.1	3.9	3.8	4.1	3.3	3.9
TRANSPORTATION	13.0	13.0	19.8	6.3	5.9	5.5	6.3	4.7	5.0	5.9	5.3	3.6	7.4
WHOLESALE DISTRIBUTION	11.7	11.7	18.2	9.1	8.9	6.3	7.5	8.0	7.4	8.0	7.5	10.1	9.3
ALL INDUSTRIES	9.6	9.6	13.0	9.2	7.6	6.8	8.2	7.1	5.8	6.1	6.0	4.9	7.7

- Market cap multiples have risen in most industries in the past couple of years. This is particularly true in consumer goods, hitech, retail, and medical equipment. They currently sit significantly above their ten-year average across almost all industries. They have been relatively flat in construction, food and beverage, oil and gas, and wholesale distribution.

Notes:

- This is an aggregate view: industry-level asset market cap / revenue = aggregate market capitalization divided by aggregate EBITDA for each industry. Market cap is as of the last day of each year. TTM market cap is as of the day on the cover of this report.
- Average = average of the averages. TTM = trailing twelve months as of the date on the cover of this report.
- “All Industries” is the aggregate value for all industries (not the average of the percentages for each industry).
- Source of all data is YCharts and Worldlocity analysis.

Appendix

Industry segments

Aerospace and Defense
Aerospace and Defense
Automotive
Auto Manufacturers
Auto Parts
Recreational Vehicles
Chemicals
Chemicals
Specialty Chemicals
Construction
Engineering & Construction
Residential Construction
Consumer Goods
Apparel Manufacturing
Footwear & Accessories
Furnishings, Fixtures & Appliances
Household & Personal Products
Luxury Goods
Energy / Utilities
Utilities - Diversified
Utilities - Independent Power Producers
Utilities - Regulated Electric
Utilities - Regulated Gas
Utilities - Regulated Water
Utilities - Renewable
Food and Beverage
Beverages - Brewers
Beverages - Non-Alcoholic
Beverages - Wineries & Distilleries
Confectioners
Farm Products
Packaged Foods
Tobacco

Hitech Electronics
Communication Equipment
Computer Hardware
Consumer Electronics
Electronic Components
Scientific & Technical Instruments
Solar
Hitech Semiconductors
Semiconductor Equipment & Materials
Semiconductors
Industrials
Building Products & Equipment
Business Equipment & Supplies
Conglomerates
Electrical Equipment & Parts
Farm & Heavy Construction Machinery
Metal Fabrication
Packaging & Containers
Pollution & Treatment Controls
Specialty Industrial Machinery
Tools & Accessories
Waste Management
Materials / Mining
Agricultural Inputs
Aluminum
Building Materials
Coking Coal
Copper
Gold
Lumber & Wood Production
Other Industrial Metals & Mining
Other Precious Metals & Mining
Paper & Paper Products
Silver
Steel
Medical Equipment
Diagnostics & Research
Medical Devices
Medical Instruments & Supplies

Oil and Gas
Oil & Gas Drilling
Oil & Gas E&P
Oil & Gas Equipment & Services
Oil & Gas Integrated
Oil & Gas Midstream
Oil & Gas Refining & Marketing
Thermal Coal
Uranium
Pharmaceuticals
Biotechnology
Drug Manufacturers - General
Drug Manufacturers - Specialty & Generic
Restaurants
Restaurants
Retail
Apparel Retail
Auto & Truck Dealerships
Department Stores
Discount Stores
Grocery Stores
Home Improvement Retail
Internet Retail
Pharmaceutical Retailers
Specialty Retail
Telecommunications
Telecom Services
Transportation
Airlines
Integrated Freight & Logistics
Marine Shipping
Railroads
Trucking
Wholesale Distribution
Electronics & Computer Distribution
Food Distribution
Industrial Distribution
Medical Distribution

Appendix

Notes and definitions

1. Primary data source is YCharts.
2. Companies included in this analysis are filtered based on available financial, operational, and market cap data. Some significant companies have been excluded because of lack of market capitalization data from the primary data sources.
3. Free cash flow = operating cash flow minus CAPEX.
4. ROA = return on assets = net income divided by total assets.
5. ROIC = return on invested capital = net income divided by (total debt plus equity).
 1. Note: the formal definition of ROIC uses NOPAT (operating profit minus taxes) in the numerator and nets out cash and cash equivalents in the denominator. Furthermore, some companies may employ their own specific definition. The results here will be close to the formal definition, but generally slightly less.
6. ROCE = return on capital employed = EBIT divided by capital employed. Capital employed = total assets minus total current liabilities.
7. ROPA = return on physical assets = operating profit divided by (PP&E (net) plus inventory).
8. Economic profit = net operating profit after taxes (NOPAT) minus weighted average cost of capital (WACC) times capital invested. Capital invested = Equity plus the non-current portion of debt. WACC is industry-specific, as publicly reported by Aswath Damodaran, NYU Stern Business School.
9. Inventory turns = COGS (end of period) divided by inventory (end of period).
10. C2C = cash-to-cash in days = days in receivables plus days in inventory minus days in payables.
11. Unless otherwise noted, all data are based on trailing twelve months (TTM) results for each company. TTM are tied to the most recent fiscal quarter for which results are available and the three quarters prior to that.
12. Historical data is for the past ten fiscal years for all companies. The number of companies grows for each year in the historical analysis, as more companies became public across the ten years.
13. In the case of companies formed from mergers, the oldest company is used to designate the resultant company founding year.
14. 3-Year CAGR is based on the past four years of annual financial data.
15. Market capitalization is based on the stock prices as of the date on the cover of this report for each company. Market cap to revenue ratios are market capitalization divided by trailing twelve months (TTM) revenue through the most recently reported fiscal quarter as of the date on the cover of this report.
16. EBITDA is calculated as operating income plus depreciation and amortization.
17. Adjusted EBITDA = EBITDA minus stock compensation
18. Cash = cash, cash equivalents, and marketable securities.
19. Total debt includes short-term debt, the current portion of long-term debt, long-term debt, borrowings under credit facility, capital lease obligations, convertible notes, and deferred rent.
20. CAPEX = gross CAPEX, in other words it does not net out the sale of assets.
21. Enterprise value (EV) = market cap plus total debt minus cash.
22. Most companies allocate depreciation and amortization costs to individual cost buckets, including cost of revenue, SG&A, and R&D. Some subset of companies explicitly show depreciation and amortization costs on the income statement after the other cost buckets. No attempt was made to reallocate these costs for this subset of companies. This has the effect of understating COGS, SG&A, and R&D for those companies.
23. Individual company YOY numbers may be distorted due to mergers and acquisitions. No attempt has been made to normalize for mergers, acquisitions, and divestitures.

Appendix

Notes and definitions

24. Aggregate inventory turns is calculated as follows: sum of all COGS for all companies in an industry divided by sum of all inventories for all companies in an industry. In a certain small number of cases, companies do not have an inventory entry on their balance sheets. In this case, to maintain consistency across calculations, inventory is assumed to be zero for those companies. This is most prevalent in service-oriented industries such as transportation and wholesale distribution, where certain companies own zero inventory. This may have the effect of slightly overstating aggregate inventory turns versus if the calculation were only done for those companies that carry inventory. (Note: in goods-producing industries, companies without COGS or without inventories have been filtered out of the analysis).



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