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Cash Flow Trends and Their Fundamental Drivers: Comprehensive Review (Quarter 1-4, 2020)

Free Cash Margin Index:

0.99%, 3.45%
Recession Lows
(Dec 2000, Dec 2008)

4.34%
Current
(Mar, Jun, Sept, Dec
2020)

6.88%
Recent High
(Dec 2009)

Median free cash margin started 2020 with a 9 bps increase to 4.43% in March 2020 compared to December 2019 and then increased dramatically throughout the remainder of 2020. Free cash margin increased to 5.93% in June 2020 (150 bps increase since March), 6.77% in September 2020 (84 bps increase since June), and 7.20% in December 2020 (43 bps increase since September). In 2019, free cash margin ranged from 3.83-4.34%.

The increase in free cash margin occurred despite decreasing revenues and operating cushion throughout 2020, which continued trends from 2019. The increase in free cash margin was largely driven by decreases in capital expenditures and income taxes as a percentage of revenue.

Decreases in median revenue averaged 3.0% in 2020, with the largest drops occurring in June and September (3.1% and 5.7%, respectively), compared to average decreases of 1.6% in 2019. Median revenues decreased to \$1,152.58 million in March 2020 from \$1,170.95 million in December 2019.

The median operating cushion fell 65 bps to 12.73% in March 2020 compared to 13.37% in December 2019. Gross margin was at its highest point in December 2019 (of the reporting periods covered by this report - December 2000 through 2020) 37.72% in December 2019 and decreased 31 bps to 37.41% in March 2020. SG&A spending as a percentage of revenue also continued to increase in 2020; it was 18.00% in December 2019.

Median capital expenditures as a percentage of revenues were essentially flat throughout 2019 and the first half of 2020, ranging from 3.64-3.70%, but dropped in the latter half of 2020 as companies held onto their cash given Covid-19 uncertainties. Capital expenditures dropped to 3.39% in September 2019 and then to 3.18% in December 2020.

Data for this research were provided by the Wharton Research Data Services database.

**Cash Flow Trends and Their Fundamental Drivers:
Comprehensive Industry Review (Quarter 4, 2020)**

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Cash Flow Trends and Their Fundamental Drivers: Comprehensive Industry Review (Quarter 4, 2020)

Free Cash Margin Index*:		
0.99%, 3.45%	7.20%	6.88%
Recession Lows (Dec 2000, Dec 2008)	Current (Dec 2020)	Recent High (Dec 2009)

The ***Free Cash Margin Index** is free cash flow measured as a percentage of revenue for the trailing twelve-month period.

Introduction

This research report is part of a continuing series that examines cash flow trends and the underlying drivers that are causing changes in those trends. The current study contains a review of the cash flow performance of all non-financial companies for a series of rolling twelve-month periods from the first quarter of 2000 through the fourth quarter of 2020. Additionally, it looks at individual industry results and focuses its attention on the drivers that pushed free cash margin higher or lower in those industries. All companies with total assets of \$100 million or more are included, resulting in a total sample of 2,643 companies. Please see pages 5 and 6 for a list of industries included. That list is followed by a summary of the findings.

Measured as free cash flow divided by revenue, free cash margin is a cash flow profit margin. It indicates what percent of revenue is left for shareholders in the form of free and discretionary cash flow. If the company sells its products or services for a dollar, free cash margin tells how many cents the shareholders can take home without reducing the company's ability to generate more. Thus, as the report looks at cash flow trends and their underlying drivers, its particular interest is on how those factors impact free cash margin.

Continuous Focus on Cash Flow

Corporate financial success is dependent not only on a company's ability to generate revenues and earnings, but also cash flow, especially free cash flow. It is free cash flow and growth in free cash flow, that discretionary stream of cash that a company can put to use for acquisitions, debt retirement, dividends and stock buybacks that works with growing earnings to drive firm value higher.

Because it is "free," free cash flow comes with no strings attached. It is truly discretionary. Spending it does not impact the company's ability to generate more. A company with revenue growth will eventually lose the favor of investors if it never finds a way to generate earnings. In a similar way, a company with profits that is unable to generate cash will also experience waning investor enthusiasm. It may take a while. Investors are patient with profitable, growing companies. Ultimately, however, a company must show an ability to generate free cash flow.

Companies that consume cash must continually seek new sources of capital – whether debt or equity. At some point, those sources of capital will dry up or become prohibitively expensive if the firm does not show at least some progress toward getting closer to positive cash generation. Worse, if cash flow does not back a company's earnings, ultimately those earnings themselves may become suspect, necessitating write-downs of the resulting non-cash assets. Net losses will likely accompany those write-downs.

When free cash margin is positive, a firm is covering all ongoing claims and is able to pay dividends, reduce debt or simply add to its cash coffers. When free cash margin turns negative, ongoing claims are not being met. Cash and short-term investments can be used to meet the shortfall. However, on-hand cash and short-term investments are not an unlimited source of funds. Firms can borrow money to meet their needs. However, even if this were an option, increasing debt levels add new, unwanted risks. Equity issues provide another avenue, but capital markets can be painfully dilutive when share prices are depressed for firms that are seemingly unable to generate cash.

During periods of growth, firms may have problems generating cash as profits are consumed with growth-related investments in working capital and property, plant and equipment needed to support that growth. During recessions, cash generation can be particularly problematic as revenues and profits decline, draining the economic engine that supports cash generation. Regardless of the economic environment, however, free cash margin serves as an important measure of long-term financial health for individual companies, industries and the economy as a whole. The Lab thinks that by periodically examining their cash generating ability, readers will gain insight into the overall financial health of important segments of U.S. firms. With all "nonfinancial firm industry" data dating back to 2000, it is possible to see how the cash-generating performance of these firms presently compares with their performance during previous periods of economic contraction (e.g., 2001 and 2008-2009) and economic expansion.

Cash Flow Definitions

Free cash flow is the cash flow equivalent of the income statement “bottom line”. Like net income, free cash flow is available for shareholders after all prior claims have been satisfied. However, also like net income, which, to facilitate analysis, can be divided into certain sub-measures of performance, like gross profit and operating profit, free cash flow can be similarly divided. Thus, while the primary focus of the report is on free cash flow and free cash margin, or free cash flow as a percentage of revenue, it analyzes the fundamental drivers underlying two distinct, but also closely related, measures of cash flow:

- 1) Operating cash flow and operating cash margin - cash flow from operations after interest charges and income taxes. Operating cash margin is operating cash flow divided by revenue.
- 2) Free cash flow and free cash margin - cash flow available for common shareholders that can be used for such discretionary purposes as stock buybacks and dividends without affecting the firm's ability to grow and generate more. This measure is calculated as operating cash flow less preferred dividends and net capital expenditures. Free cash margin is free cash flow divided by revenue.

The drivers of improvements or declines in free cash margin consist of factors that impact profitability and efficiency. On the profitability front, operating cushion measures operating profit, exclusive of the non-cash expenses, depreciation and amortization. Factors impacting operating cushion consist of gross margin (excluding depreciation and amortization), and SG&A% (excluding depreciation and amortization). Also impacting profitability and a firm's ability to generate free cash flow, but excluded from operating cushion, is income taxes paid, which is measured as a percent of revenue.

Capital expenditures do not impact profitability directly, but through depreciation on fixed asset additions. However, these expenditures are subtracted in computing free cash flow. It is also important to look at capital expenditures because these are investments in fixed assets that will likely improve a company's ability to generate revenue, and subsequent profit, in the future. Like operating expenses and taxes, capital expenditures are measured as a percent of revenue.

On the efficiency front, increases in receivables and inventory consume free cash flow. Increases in accounts payable provide free cash flow. The combination of receivables days plus inventory days less payables days is a firm's cash cycle. Reductions in the cash cycle provide free cash flow, while increases in the cash cycle consume free cash flow. All of these factors are evaluated when analyzing changes in free cash margin for the standout firms discussed in this section.

Data and Methodology

The data is provided by Compustat through a license with the Wharton Research Data Services. As noted, each data amount is for a rolling twelve-month period ending with the quarter end in question. For example, cash flow amounts for December 30, 2020 represent amounts for the twelve months (four quarters) ended December 30, 2020.

The 20 analyzed industry groups are as follows:

GICS	Industry Group
1010	Energy
1510	Materials
2010	Capital Goods
2020	Commercial & Professional Services
2030	Transportation
2510	Automobiles & Components
2520	Consumer Durables & Apparel
2530	Consumer Services
2550	Retailing
3010	Food & Staples Retailing
3020	Food, Beverage, & Tobacco
3030	Household & Personal Products
3510	Health Care Equipment & Services
3520	Pharmaceuticals, Biotech, & Life Sciences
4510	Software & Services
4520	Technology Hardware & Equipment
4530	Semiconductors & Equipment
5010	Telecommunication Services
5020	Media
5510	Utilities

The 20 industry groups use the four-digit Global Industrial Classification System (GICS) and represent 10 overall sectors. The ten sectors with industry groups included in parentheses are: Energy (Energy), Materials (Materials), Industrials (Capital Goods, Commercial & Professional Services, and Transportation), Consumer Discretionary (Automobiles & Components, Consumer Durables & Apparel, Consumer Services, Media and Retailing), Consumer Staples (Food & Staples Retailing, Food, Beverage & Tobacco and Household & Personal Products), Health Care (Health Care Equipment & Services and Pharmaceuticals, Biotech & Life Sciences), Information Technology (Software & Services, Technology Hardware & Equipment and Semiconductors & Equipment), Telecommunications (Telecommunication Services) and Utilities (Utilities).

Summary of Results for All Non-Financial Companies

Median free cash margin slightly increased to 4.43% for the twelve months ending March 2020, compared to 4.34% for the twelve months ending December 2019 but increased more significantly throughout 2020. FCM increased to 5.93% in June 2020, 6.77% in September 2020, and 7.20% in December 2020. Free cash margin had been relatively flat throughout 2019, at 3.90%, 3.83%, 3.86%, and ending at 4.34% in December 2019.

Factors impacting the year-over-year increase in free cash margin were declines in capital expenditures as a percentage of revenue and income tax as a percentage of revenue. We saw revenues decline throughout 2020; gross margin and operating cushion dipped in the first half of the year but then held steady or slightly improved in the latter half.

Median revenues continued a downward trend from 2019. Revenues declined to \$1,152.58 million in March 2020 from \$1,170.95 million in December 2019 and continued to decline to \$1,117.12 in June 2020, \$1,053.47 in September 2020, and \$1,038.00 in in December 2019. Decreases were smaller in 2019 and ranged from 1.0% to 3.3%.

Gross margin was at 37.72% during the twelve months ending December 2019, which was the highest it had been during the reporting periods covered by this report. It dropped to 37.41% in March 2020 and 36.87% in June 2020, then climbed back up, ending 2020 at 37.14%. Operating cushion, or operating profit before depreciation continued the declining trend from 2019, decreasing 12.73% in March 2020 from 13.37% in December 2019, driven by rising SG&A costs. June, September, and December 2020 ranged from 11.68% to 11.97%.

Capital spending as a percentage of revenue was stable throughout 2019 and in the first half of 2020. Capital spending decreased in the September and December periods of 2020, when it dropped to 3.39% and 3.14%, respectively (down from a range of 3.64-3.70% in 2019; 3.72% in March 2020, and 3.64% in June 2020). Income taxes fell as well, down from a range of 0.92-0.95% in 2019 to 0.73% in March and then to 0.55-0.58% in Jun-Dec 2020.

In the tables on the following pages, we present free cash margin and several of its underlying drivers with a focus on year-over-year effects from December 2019 to 2020. We then present free cash margin and its drivers for each quarter of 2020 and 2019.

Drivers of Free Cash Margin

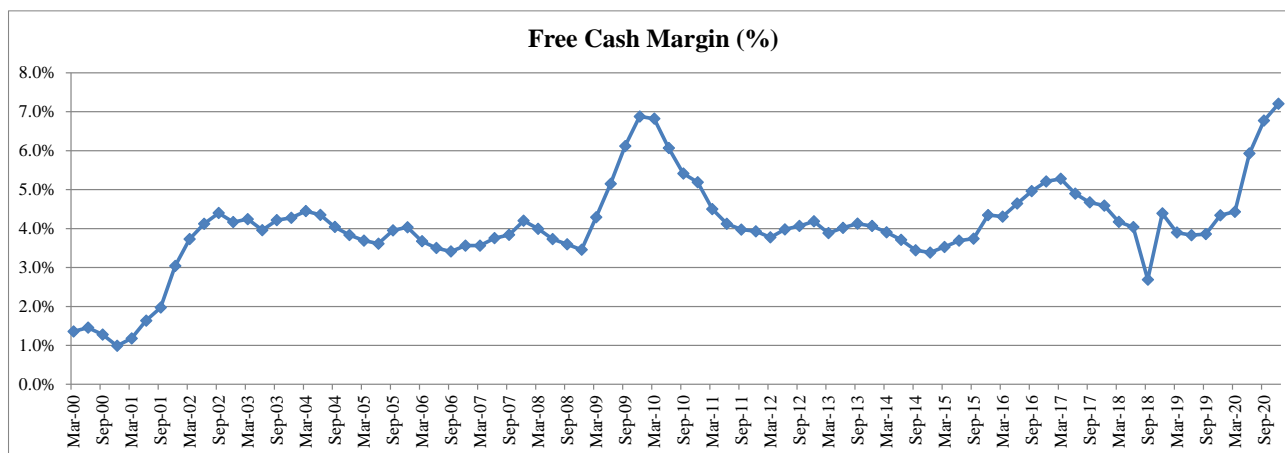
ALL NON-FINANCIAL INDUSTRIES	Q4 2020 (Dec 2020)	Q4 2019 (Dec 2019)	Effect on FCM (Q4 2020 vs. Q4 2019)
Revenue (millions)	\$1,038.00	\$1,170.95	DOWN 11.4%
Free Cash Flow (millions)	\$61.11	\$44.62	UP 37.0%
Free Cash Margin	7.20%	4.34%	UP 286 bps
Operating Cushion %	11.97%	13.37%	Driving DOWN
Gross Margin % (before depreciation)	37.14%	37.72%	Driving DOWN
SGA% (before depreciation)	19.30%	18.00%	Driving UP
Cash Cycle (rev days)	56.13	52.06	Driving UP
Accounts Receivable (rev days)	56.27	53.47	Driving UP
Inventory (rev days)	25.82	23.85	Driving UP
Accounts Payable (rev days)	25.95	25.26	Driving UP
Income tax to Rev %	0.58%	0.93%	Driving DOWN
Cap Exp. to Rev %	3.18%	3.70%	Driving DOWN

ALL NON-FINANCIAL INDUSTRIES	Q4 2020 (Dec 2020)	Q3 2020 (Sep 2020)	Q2 2020 (Jun 2020)	Q1 2020 (Mar 2020)
Revenue (millions)	\$1,038.00	\$1,053.47	\$1,117.12	\$1,152.58
Free Cash Flow (millions)	\$61.11	\$60.90	\$53.82	\$45.87
Free Cash Margin	7.20%	6.77%	5.93%	4.43%
Operating Cushion %	11.97%	11.68%	11.79%	12.73%
Gross Margin % (before depreciation)	37.14%	36.91%	36.87%	37.41%
SGA% (before depreciation)	19.30%	19.62%	19.29%	18.71%
Cash Cycle (rev days)	56.13	51.59	48.65	49.04
Accounts Receivable (rev days)	56.27	52.79	49.09	51.09
Inventory (rev days)	25.82	24.71	24.12	22.99
Accounts Payable (rev days)	25.95	25.92	24.56	25.04
Income tax to Rev %	0.58%	0.55%	0.56%	0.73%
Cap Exp. to Rev %	3.18%	3.39%	3.64%	3.72%

ALL NON-FINANCIAL INDUSTRIES	Q4 2019 (Dec 2019)	Q3 2019 (Sep 2019)	Q2 2019 (Jun 2019)	Q1 2019 (Mar 2019)
Revenue (millions)	\$1,170.95	\$1,182.61	\$1,194.00	\$1,234.73
Free Cash Flow (millions)	\$44.62	\$36.15	\$36.40	\$40.21
Free Cash Margin	4.34%	3.86%	3.83%	3.90%
Operating Cushion %	13.37%	14.04%	14.06%	14.09%
Gross Margin % (before depreciation)	37.72%	37.22%	37.26%	37.27%
SGA% (before depreciation)	18.00%	17.69%	17.57%	17.68%
Cash Cycle (rev days)	52.06	51.82	51.38	50.81
Accounts Receivable (rev days)	53.47	54.46	54.25	53.87
Inventory (rev days)	23.85	23.51	23.35	22.72
Accounts Payable (rev days)	25.26	26.14	26.21	25.77
Income tax to Rev %	0.93%	0.95%	0.95%	0.92%
Cap Exp. to Rev %	3.70%	3.68%	3.68%	3.64%

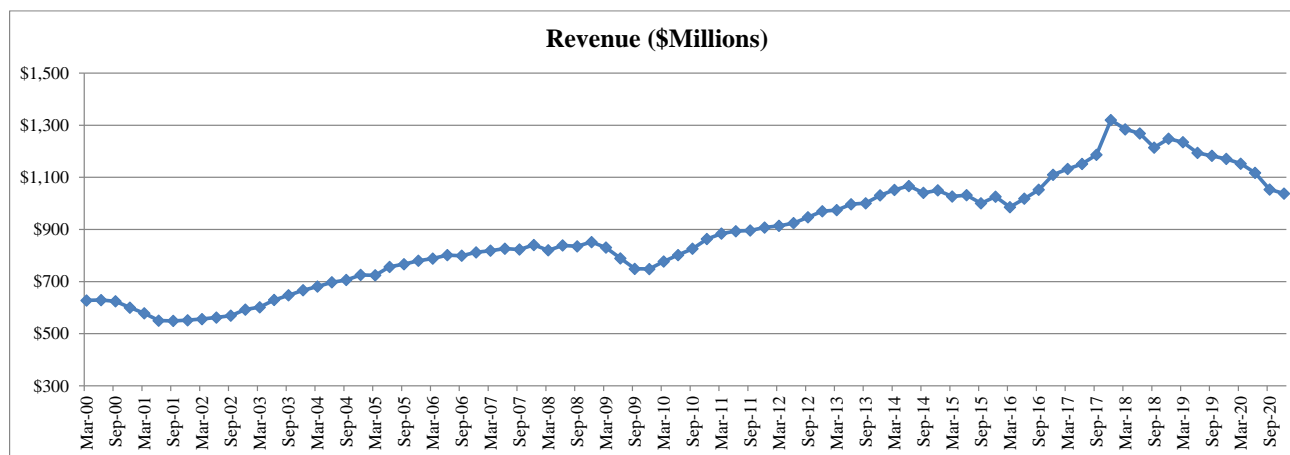
In the exhibits below we present graphs of free cash margin and several of its underlying drivers. These exhibits were constructed with data from the complete sample of 2,643 non-financial companies. For more details on each of the 20 individual industry groups included, please refer to the individual industry spreadsheets and supporting charts that are available on our website (www.scheller.gatech.edu/finlab).

All Non-financials, Q1 2000 – Q4 2020



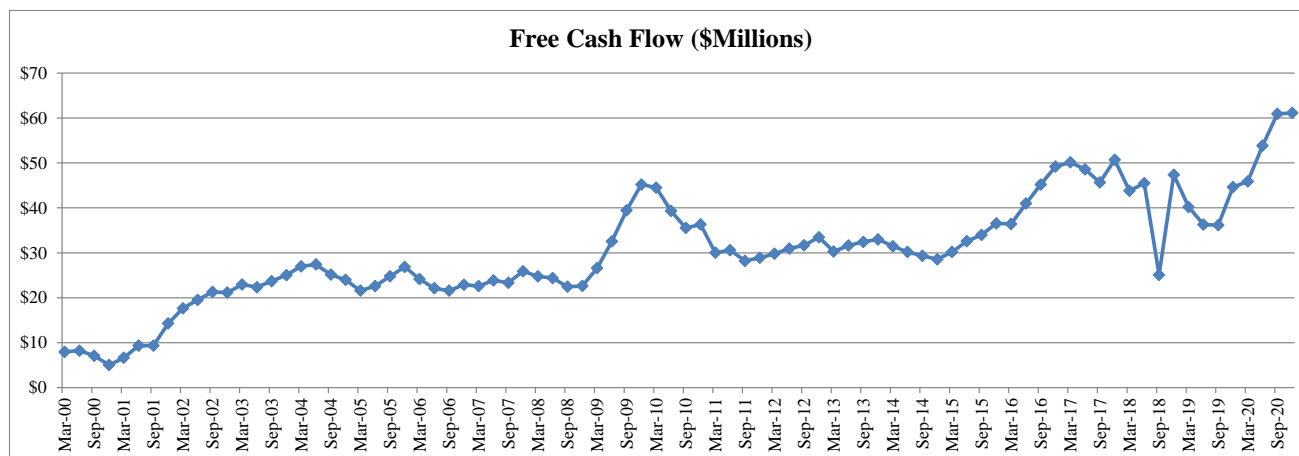
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Free Cash Margin	3.90%	3.83%	3.86%	4.34%	4.43%	5.93%	6.77%	7.20%

All Non-financials, Q1 2000 – Q4 2020



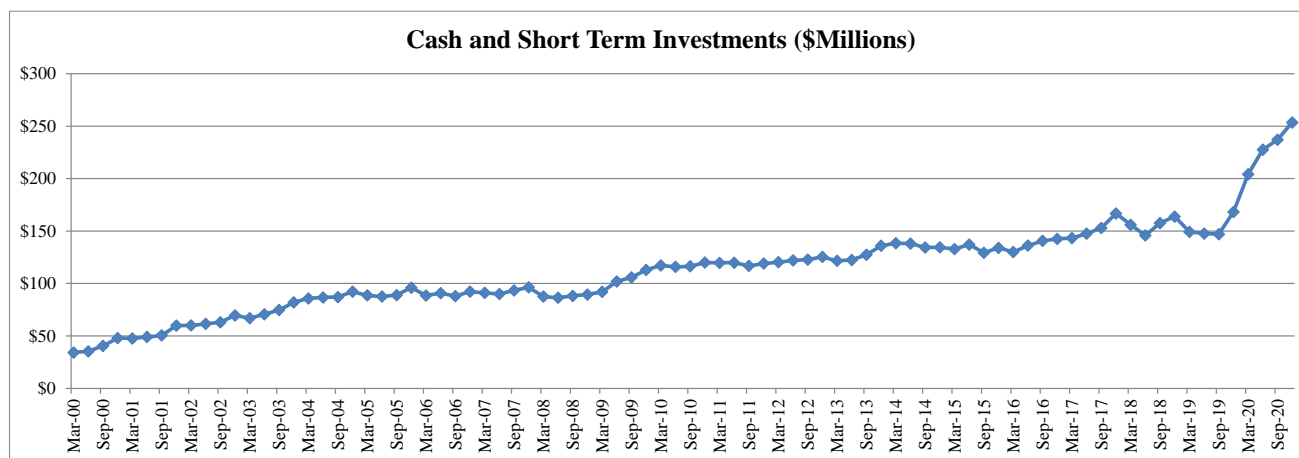
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Revenue (millions)	\$1,234.73	\$1,194.00	\$1,182.61	\$1,170.95	\$1,152.58	\$1,117.12	\$1,053.47	\$1,038.00

All Non-financials, Q1 2000 – Q4 2020



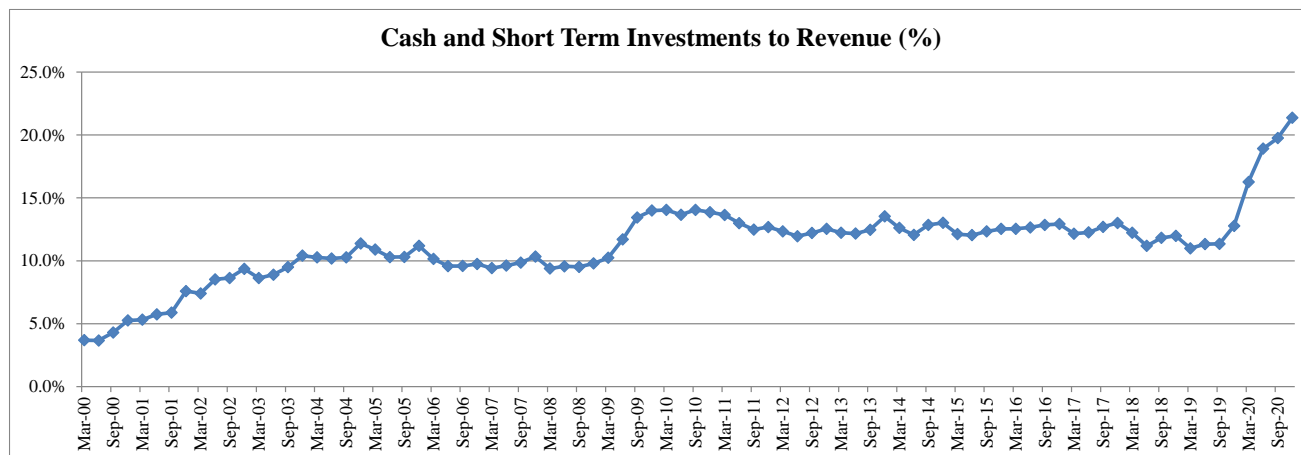
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Free Cash Flow (millions)	\$40.21	\$36.30	\$36.15	\$44.62	\$45.87	\$53.82	\$60.90	\$61.11

All Non-financials, Q1 2000 – Q4 2020



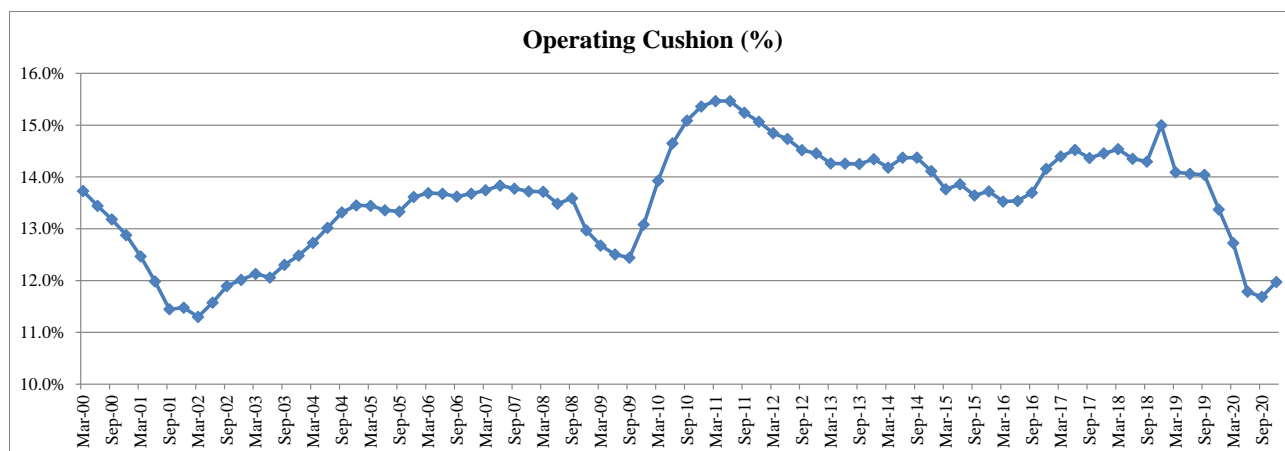
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Cash and Short Term Investments (millions)	\$149.29	\$147.62	\$147.00	\$168.18	\$204.10	\$227.64	\$237.08	\$253.46

All Non-financials, Q1 2000 – Q4 2020



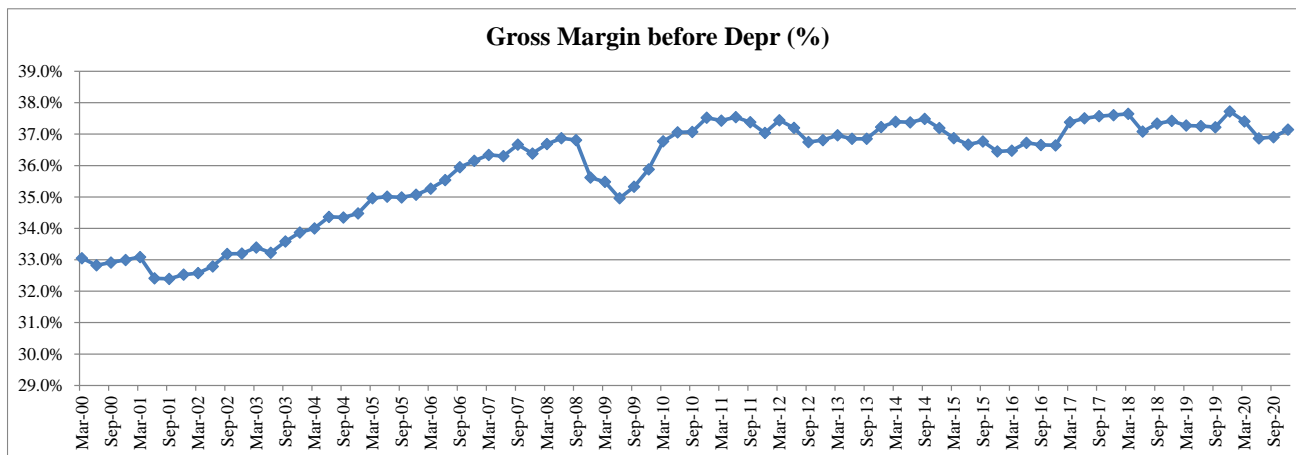
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Cash and Short Term Invest. to Revenue	10.99%	11.32%	11.35%	12.78%	16.26%	18.91%	19.75%	21.36%

All Non-financials, Q1 2000 – Q4 2020



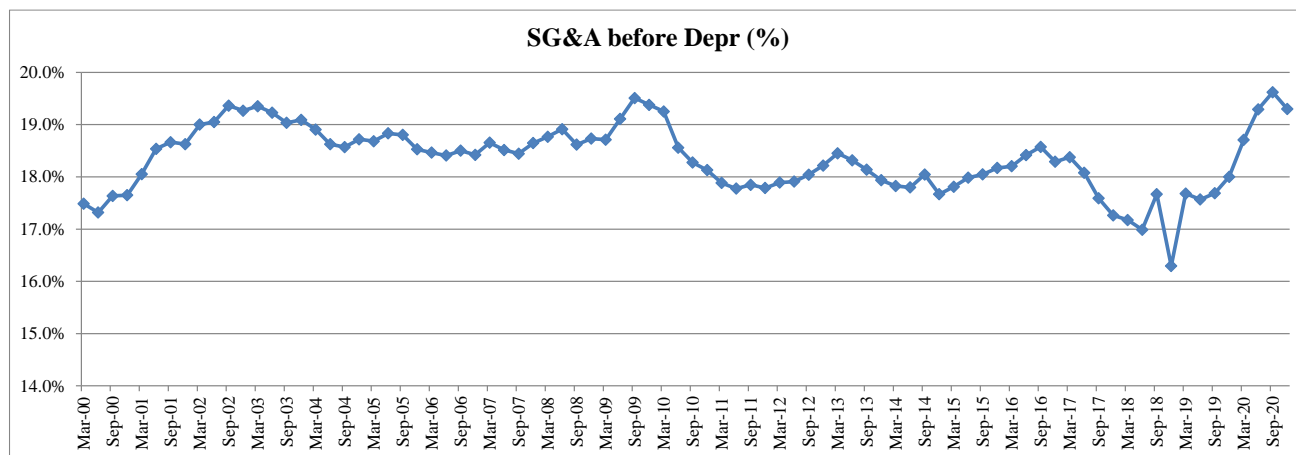
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Operating Cushion %	14.09%	14.06%	14.04%	13.37%	12.73%	11.79%	11.68%	11.97%

All Non-financials, Q1 2000 – Q4 2020



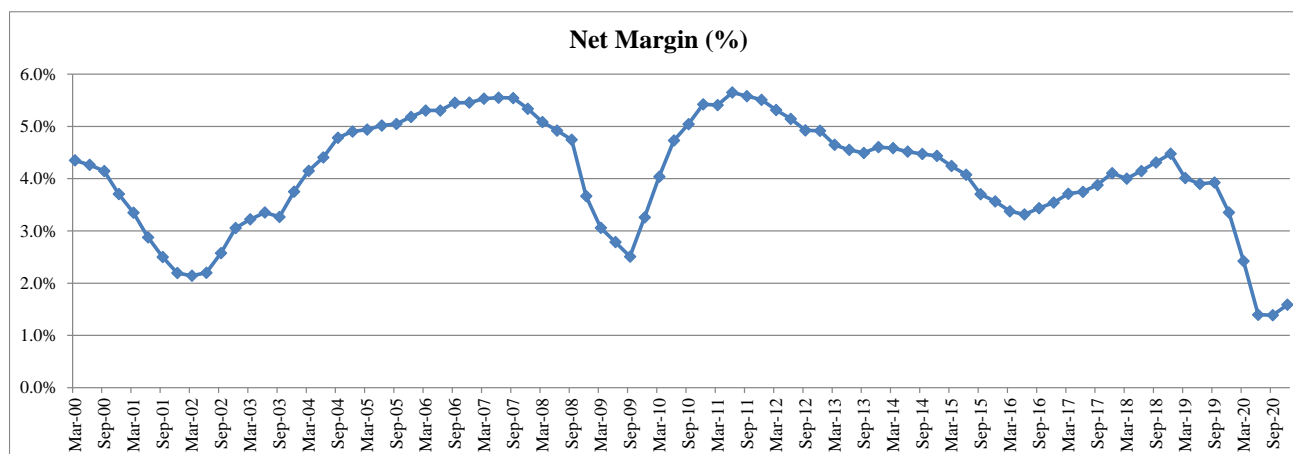
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Gross Margin % (before depreciation)	37.27%	37.26%	37.22%	37.72%	37.41%	36.87%	36.91%	37.14%

All Non-financials, Q1 2000 – Q4 2020



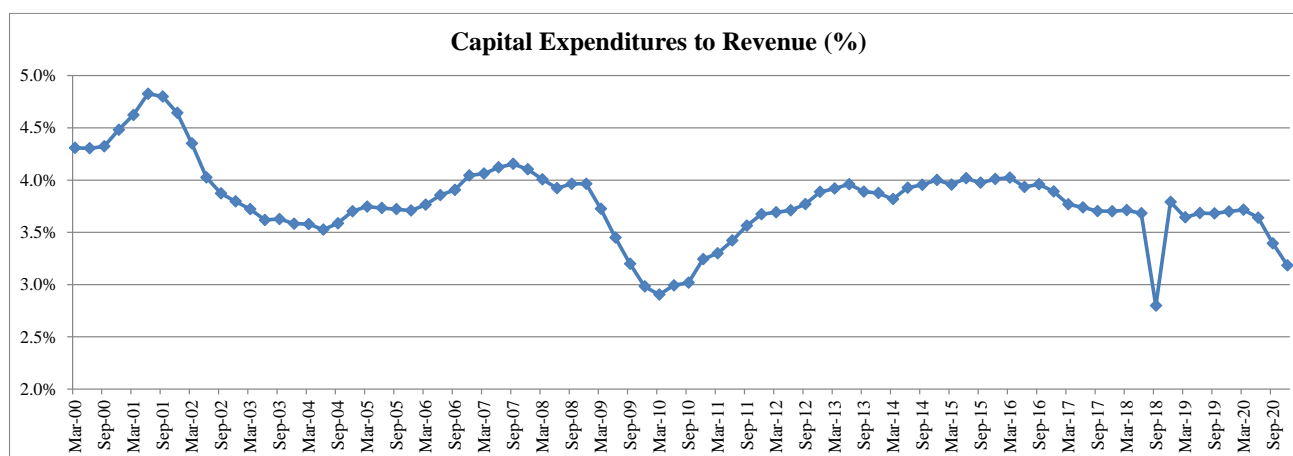
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
SGA % (before depreciation)	17.68%	17.57%	17.69%	18.00%	18.71%	19.29%	19.62%	19.30%

All Non-financials, Q1 2000 – Q4 2020



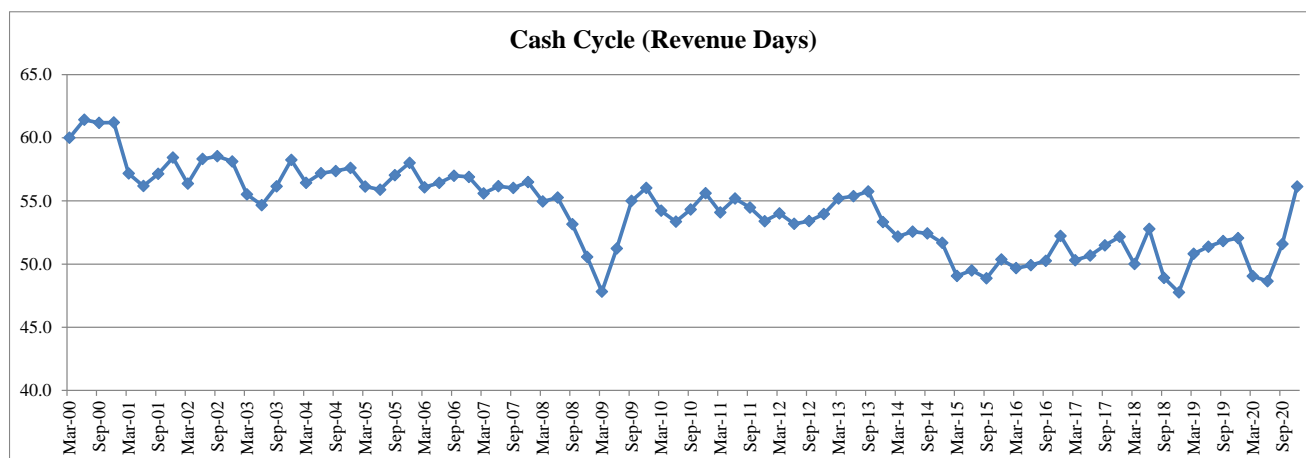
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Net Margin	4.01%	3.90%	3.93%	3.35%	2.42%	1.40%	1.39%	1.59%

All Non-financials, Q1 2000 – Q4 2020



	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Cap Exp. to Rev %	3.64%	3.68%	3.68%	3.70%	3.72%	3.64%	3.39%	3.18%

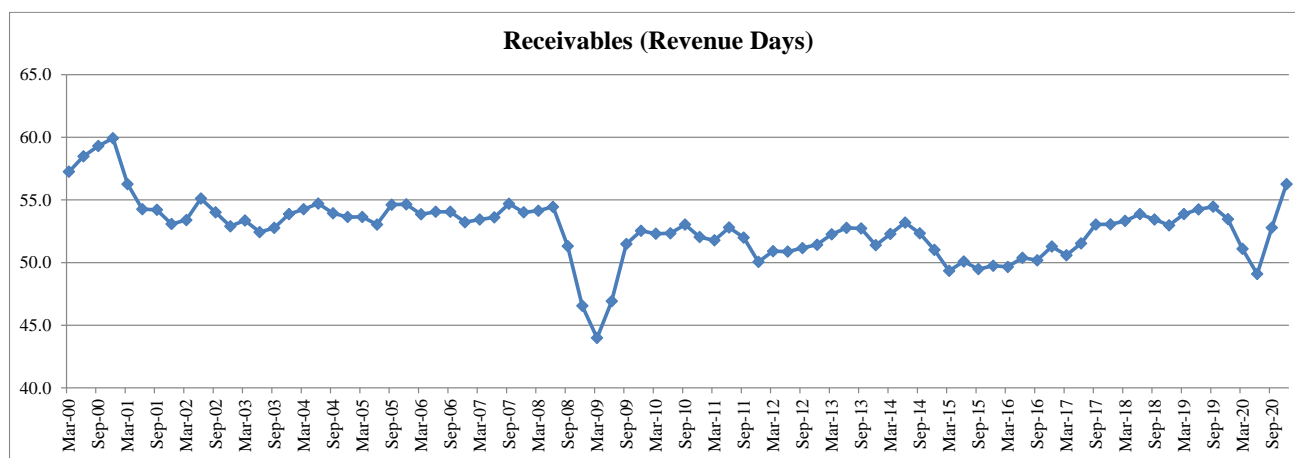
All Non-financials, Q1 2000 – Q4 2020



The cash cycle measures the proportion of operating cash flow carried in working capital and is measured by receivables days plus inventory days less payables days.

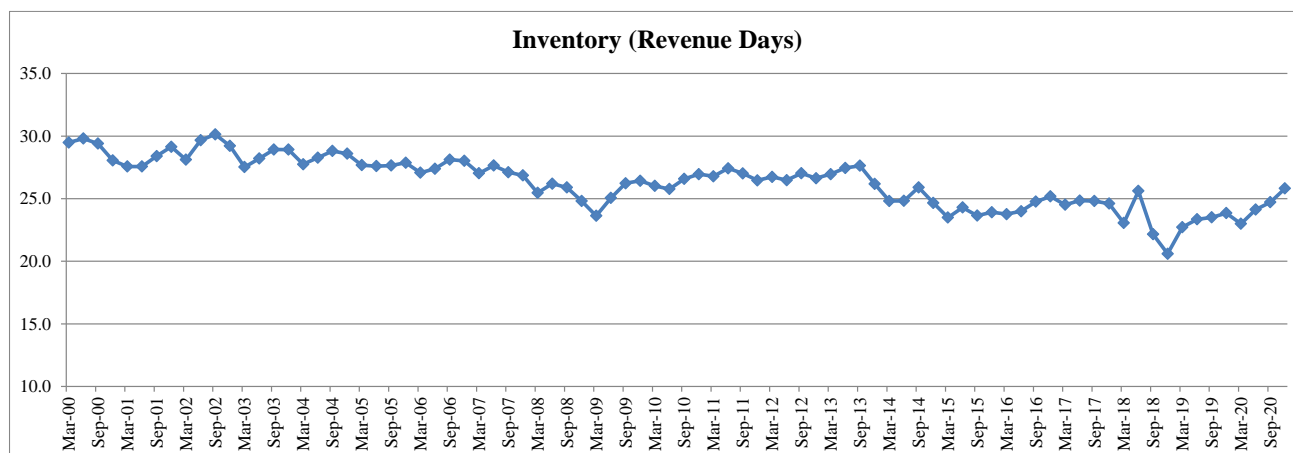
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Cash Cycle (rev days)	50.81	51.38	51.82	52.06	49.04	48.65	51.59	56.13

All Non-financials, Q1 2000 – Q4 2020



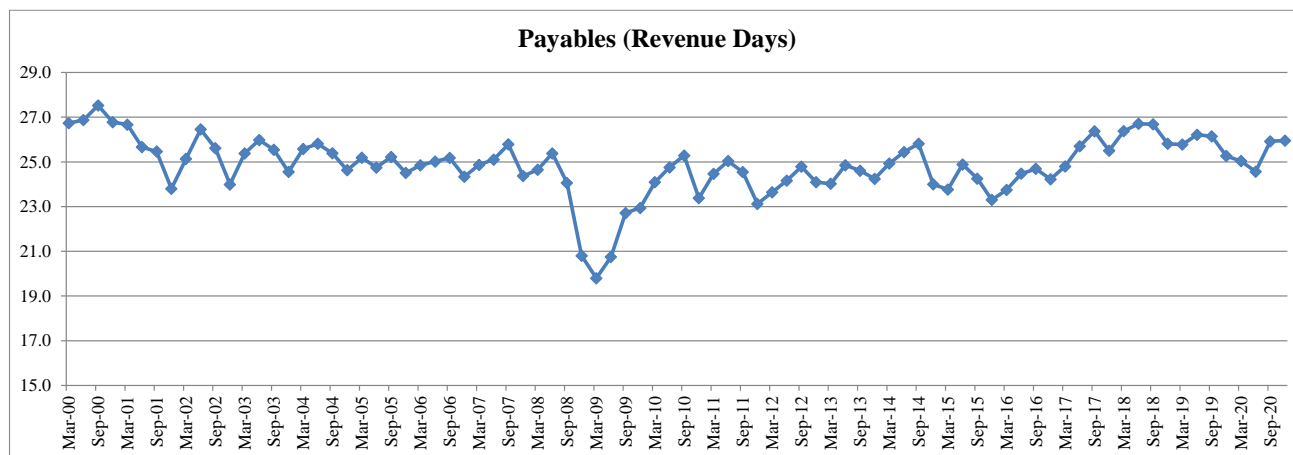
	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Accounts Receivable (rev days)	53.87	54.25	54.46	53.47	51.09	49.09	52.79	56.27

All Non-financials, Q1 2000 – Q4 2020



	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Inventory (rev days)	22.72	23.35	23.51	23.85	22.99	24.12	24.71	25.82

All Non-financials, Q1 2000 – Q4 2020



	Q1 2019 (Mar 2019)	Q2 2019 (Jun 2019)	Q3 2019 (Sep 2019)	Q4 2019 (Dec 2019)	Q1 2020 (Mar 2020)	Q2 2020 (Jun 2020)	Q3 2020 (Sep 2020)	Q4 2020 (Dec 2020)
Accounts Receivable (rev days)	53.87	54.25	54.46	53.47	51.09	49.09	52.79	56.27

Individual Industry Results

Starting 2020, **10** industries saw an improvement in free cash margin in March 2020 compared to December 2019, **6** industries saw a decrease, and **3** industries were stable. The majority of industries followed the overall trend of moderate to substantial improvements in free cash margin throughout the remainder of the year. During the twelve months ended December 2020 (reported below), we saw a moderate to substantial year-over-year (compared to December 2019) improvement in free cash margin in **18** industries, and a declining free cash margin in just **2** industries (Consumer Services and Utilities). Improvements continued in 2020 but slowed for many, with **15** industries reporting improvements in December 2020 compared to the period ending September 2020 and **5** industries reporting a decline in the same period.

Please refer to the individual industry spreadsheets, available on our website, for charts and further details on each of the 20 industry groups outlined in the following tables.

Industry Trends in Free Cash Margin

GICS	Industry Group	Q4 2020	vs Q3 2020	vs Q4 2019
1010	Energy	7.29%	UP 211 bps	UP 390 bps
1510	Materials	8.93%	UP 67 bps	UP 308 bps
2010	Capital Goods	8.03%	DOWN 6 bps	UP 288 bps
2020	Commercial & Prof Services	9.93%	UP 70 bps	UP 369 bps
2030	Transportation	3.96%	DOWN 56 bps	UP 81 bps
2510	Automobiles & Components	5.11%	UP 37 bps	UP 266 bps
2520	Consumer Durables & Apparel	10.26%	DOWN 66 bps	UP 496 bps
2530	Consumer Services	3.13%	DOWN 55	DOWN 252 bps
2550	Retailing	7.48%	UP 98 bps	UP 439 bps
3010	Food & Staples Retailing	3.31%	DOWN 25 bps	UP 207 bps
3020	Food, Beverage, & Tobacco	8.17%	UP 111 bps	UP 177 bps
3030	Household & Personal Products	9.35%	DOWN 27 bps	UP 129 bps
3510	Health Care Equipment & Services	7.88%	UP 38 bps	UP 317 bps
3520	Pharmaceuticals, Biotech, & Life Sciences	-54.46%	UP 481 bps	UP 2303 bps
4510	Software & Services	12.97%	UP 113 bps	UP 381 bps
4520	Technology Hardware & Equipment	6.38%	UP 94 bps	UP 213 bps
4530	Semiconductors & Equipment	12.97%	DOWN 14 bps	UP 266 bps
5010	Telecommunication Services	11.30%	UP 125 bps	UP 462 bps
5020	Media	5.35%	DOWN 53 bps	DOWN 82 bps
5510	Utilities	-5.76%	UP 50 bps	DOWN 293 bps
	Total	4.34%	12(8)	17 (3)

The following tables reports Free Cash Margin for the 20 industry groups in the periods ending 2020 (Q1, Q2, Q3, and Q4 2020) and the periods ending 2019 (Q1, Q2, Q3, and Q4 2019).

GICS	Sector/Industry Group	Q4 2020	Q3 2020	Q2 2020	Q1 2020
1010	Energy	7.29%	5.18%	3.38%	4.45%
1510	Materials	8.93%	8.26%	7.36%	5.92%
2010	Capital Goods	8.03%	8.09%	7.23%	5.85%
2020	Commercial & Prof Services	9.93%	9.23%	8.90%	7.13%
2030	Transportation	3.96%	4.52%	4.09%	3.58%
2510	Automobiles & Components	5.11%	4.74%	1.93%	2.66%
2520	Consumer Durables & Apparel	10.26%	10.92%	8.00%	5.72%
2530	Consumer Services	3.13%	3.68%	3.63%	3.72%
2550	Retailing	7.48%	6.50%	5.45%	2.26%
3010	Food & Staples Retailing	3.31%	3.56%	3.19%	2.48%
3020	Food, Beverage, & Tobacco	8.17%	7.06%	6.55%	6.40%
3030	Household & Personal Products	9.35%	9.62%	10.84%	9.04%
3510	Health Care Equipment & Services	7.88%	7.50%	7.23%	4.32%
3520	Pharmaceuticals, Biotech, & Life Sciences	-54.46%	-59.27%	-73.96%	-86.30%
4510	Software & Services	12.97%	11.84%	10.31%	9.21%
4520	Technology Hardware & Equipment	6.38%	5.44%	6.02%	4.08%
4530	Semiconductors & Equipment	12.97%	13.11%	13.80%	11.40%
5010	Telecommunication Services	11.30%	10.05%	9.59%	9.66%
5020	Media	5.35%	5.88%	5.70%	5.62%
5510	Utilities	-5.76%	-6.26%	-5.49%	-5.25%
	All Industries Median				

GICS	Sector/Industry Group	Q4 2019	Q3 2019	Q2 2019	Q1 2019
1010	Energy	3.39%	0.93%	0.71%	0.68%
1510	Materials	5.85%	4.18%	4.08%	4.30%
2010	Capital Goods	5.15%	4.43%	4.40%	4.50%
2020	Commercial & Prof Services	6.24%	5.04%	5.04%	6.03%
2030	Transportation	3.15%	4.05%	4.05%	2.98%
2510	Automobiles & Components	2.45%	1.93%	1.87%	2.14%
2520	Consumer Durables & Apparel	5.30%	4.62%	4.62%	4.46%
2530	Consumer Services	5.65%	4.51%	4.52%	4.44%
2550	Retailing	3.09%	2.99%	2.99%	3.32%
3010	Food & Staples Retailing	1.24%	1.55%	1.66%	1.41%
3020	Food, Beverage, & Tobacco	6.40%	6.93%	6.84%	5.69%
3030	Household & Personal Products	8.06%	7.25%	7.99%	9.19%
3510	Health Care Equipment & Services	4.71%	4.04%	3.86%	5.18%
3520	Pharmaceuticals, Biotech, & Life Sciences	-77.49%	-61.57%	-62.96%	-48.17%
4510	Software & Services	9.16%	8.89%	9.52%	9.51%
4520	Technology Hardware & Equipment	4.25%	3.05%	3.13%	3.69%
4530	Semiconductors & Equipment	10.31%	9.99%	9.90%	10.42%
5010	Telecommunication Services	6.68%	5.48%	5.15%	6.64%
5020	Media	6.17%	6.85%	6.00%	7.04%
5510	Utilities	-2.83%	-2.24%	-2.16%	-1.55%
	All Industries Median	4.34%	3.86%		

Conclusions

The cash flow data reported through the fourth quarter of 2020 provides us with new insight into the U.S. economy. With uncertainties surrounding the effects of Covid-19, companies reduced capital spending and worked to decrease costs. Despite decreasing revenues and rising SG&A costs, companies managed to hold off further declines in gross margin and operating cushion in the latter half of 2020, with some improvements occurring in December 2020. As a result, free cash margin improved substantially during most of 2020. Stable or increasing margins with declining revenues suggests that companies may be discounting less than in prior periods and are working to reduce COGS and SG&A.

Median free cash margin was flat from December 2019 to March 2020 but then increased significantly during the rest of 2020. Median revenues continued a downward trend from 2019, with decreases averaging 3.0%, compared to 1.6% in 2019. Cash and short-term investments are up from the previous quarter and year-over-year.

Median capital expenditures as a percentage of revenue ranged from 3.64% to 3.72% in 2019 and the first half of 2020. Capital spending decreased in September and December 2020. Dividends and stock repurchase decreased as well in the latter half of 2020, from an average of 1.96% from March 2019 to June 2020, down to 1.45% in September and December 2020.

We saw improvements in free cash margin in 2020 driven by reductions in income tax and capital spending 2020; whether these improvements will hold remains to be seen.