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J.P. Morgan Working Capital Index 2020

Helping companies benchmark for success

J.P.Morgan

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1. Introduction

The importance of effective working capital management has become front and center as companies globally look to tap internal sources of funding to manage the uncertainties presented by the COVID-19 crisis. While the full impact of the pandemic remains to be seen, it is paramount that companies look to improve their liquidity by adopting efficient working capital strategies in order to emerge from the crisis stronger.

Our 2020 Working Capital Index report captures the key working capital trends of the S&P 1500 companies in the past year, when the global economy has endured extraordinary events including the trade tensions between the U.S. and China, and the coronavirus outbreak that will undoubtedly have far-reaching impacts in the months and years ahead.

By providing an assessment of the working capital metrics dissected across industries, this report aims to deliver insights and benchmarks to help finance practitioners track and improve the working capital initiatives within their organizations.

In this edition, we will:

- Examine the performance of the Working Capital Index, the Cash Index and the Cash Conversion Cycles (CCC) of the S&P 1500 companies in the past year
- Assess the impact of COVID-19 on industries
- Learn lessons from the pandemic to better manage liquidity risks going forward

Calculation Methodology

There are three sets of data points analyzed in this report:

I. The Working Capital Index tracks the average net working capital/sales values across the S&P 1500 companies and is calculated as follows:

$$\text{Average NWC} = \frac{\sum_{k=1}^n \text{Net Working Capital}_k / \text{Sales}_k}{n}$$

II. The Cash Index tracks the average cash/sales values across the S&P 1500 companies and is calculated as follows:

$$\text{Average Cash} = \frac{\sum_{k=1}^n \text{Cash}_k / \text{Sales}_k}{n}$$

Where:

Net Working Capital = Trade Receivables + Inventory - Trade Payables
n = total number of companies

We have established the base levels of 100 for both the Working Capital Index and the Cash Index, using 2011 as the base year.

III. The Cash Conversion Cycle (CCC) is the number of days it takes to convert inventory purchases into cash flows from sales. The CCC is a metric that helps quantify the working capital efficiency of a company and is derived from three different components:

- Days Payable Outstanding (DPO) or the number of days from the time a company procures raw materials to payment to suppliers
- Days Inventory Outstanding (DIO) or the number of days the company holds its inventory before selling it
- Days Sales Outstanding (DSO) or the number of days taken to collect cash from customers

Companies can improve their working capital by effectively managing the individual components of their CCC via reducing inventory levels (decreasing DIO), extending payment terms with suppliers (increasing DPO) and speeding up collections from customers (shortening DSO). As a general rule, the lower the CCC, the better the working capital efficiency.



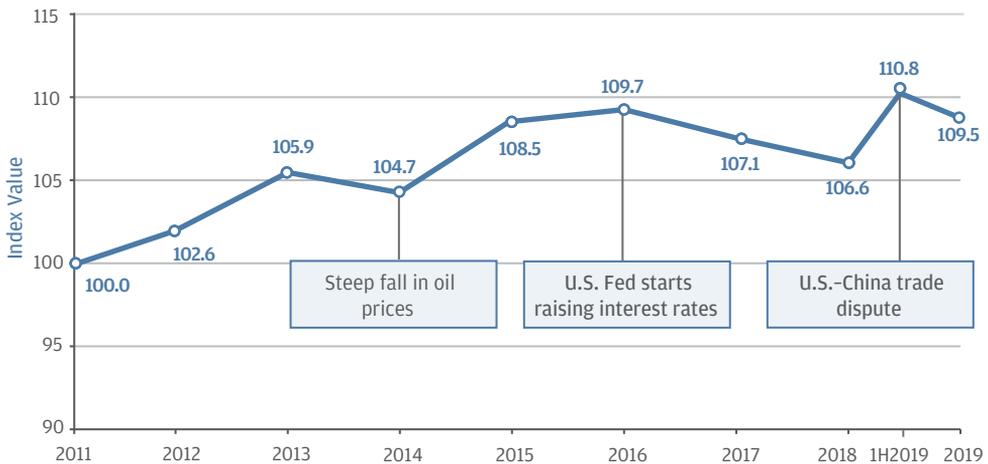
Note: To avoid the distortion of data, financial services and real estate firms in the S&P 1500 were excluded from the calculations due to their distinct business models and unique working capital metrics in comparison to other industries. Companies with high volatility in working capital and those with incomplete data were also removed, bringing the total number of companies used for this analysis to over 900.

All numbered data are from CapitalIQ.

The trends extracted from our analysis were validated against insights from J.P. Morgan's Research team.

2. Key Findings

I. The Working Capital Index rose to its highest level in nine years in 2019



Source: CapitalIQ

The Working Capital Index rose significantly in 2019, reaching its highest level in nine years during the first half of the year, as the uncertainties surrounding the U.S.-China trade tensions prompted companies to hold more inventory to mitigate the impact from supply chain disruptions.

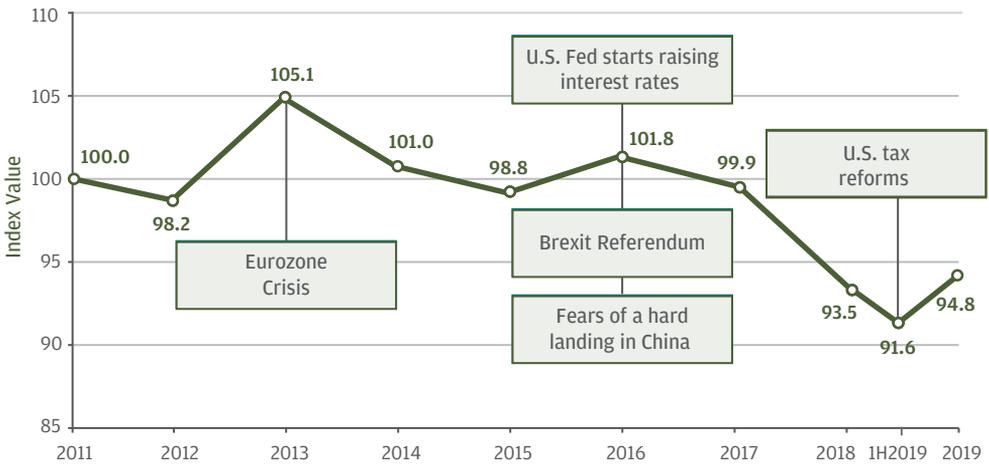
The moves by the U.S. Federal Reserve to lower interest rates also supported working capital levels, as cheaper borrowing costs encouraged corporates to tap external sources over internal channels for funding.

Even as the trade tensions subsided in late 2019, the world faced a new uncertainty as the COVID-19 crisis, which unfolded in 2020, triggered the introduction of extensive measures by governments around the world to curtail movement and contain the virus. The policies have led to further supply chain disruptions and a collapse in consumer demand, especially in transport and leisure-related industries, impacting company cash flows.

Takeaway:

The ongoing challenges presented by the global trade disputes and the COVID-19 outbreak have put immense pressure on working capital levels of businesses worldwide. As organizations continue to grapple and adapt to the new normal, it's important for treasurers not to lose sight of their working capital, as it can determine how quickly a company can rebound from the crisis.

II. The Cash Index rose for the first time in four years in 2019



Source: CapitalIQ

The Cash Index also rose in 2019 as companies shored up their cash buffers amid the U.S.-China trade war, reversing four consecutive years of declines.

While cash levels remained relatively low during the first half of the year as the 2018 U.S. tax cuts spurred companies to increase share buybacks and raise dividend payouts to shareholders, companies grew cautious in the second half of the year amid the growing macro-economic uncertainty and began bolstering their cash reserves.

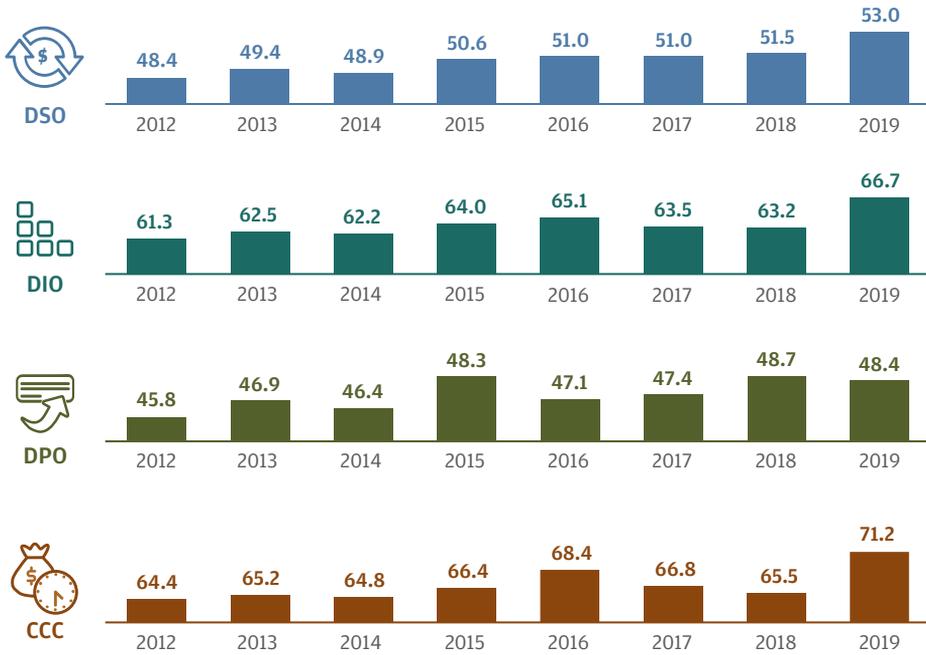
Going into 2020, the COVID-19 crisis has prompted companies to further strengthen their cash buffers to cushion the impact of the pandemic.

Takeaway:

Treasurers typically seek to maintain an optimum level of cash to keep the company running during a regular business cycle. However, to cope with black swan events like COVID-19, it's critical that companies keep additional liquidity to manage contingencies.

III. Average Cash Conversion Cycle increased the most in nine years

Average working capital performance parameters across S&P 1500 companies 2011–2019
(in average number of days)



Source: CapitalIQ

The Cash Conversion Cycle (CCC) of S&P 1500 companies increased by 5.7 days on average in 2019—the largest gain in nine years—largely due to rising inventory levels and the longer time taken to collect payments. Inventory levels (DIO) also reached nine-year highs, with companies carrying an average of 3.5 more days of inventory to alleviate supply chain shocks.

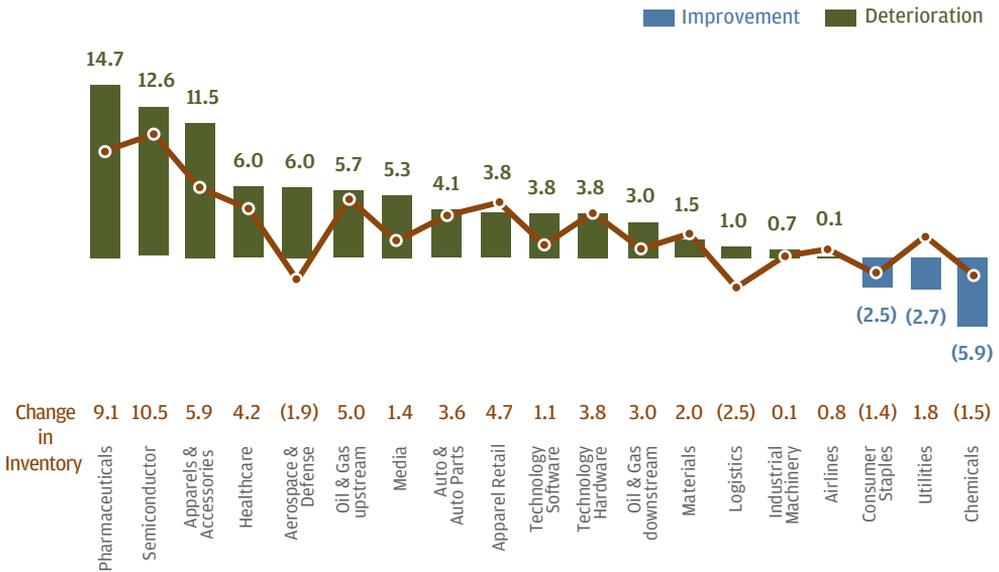
At the same time, companies began offering customers impacted by increased tariffs with better payment terms to help them adjust and adapt to the rise in levies, resulting in an average increase in DSO by 1.5 days.

Takeaway:

Working capital management is a delicate balancing act due to its sensitivity to numerous external and internal forces. With the COVID-19 pandemic and risk of recession looming over the global economy, working capital management will likely become increasingly challenging and is a discipline that treasurers would need to prioritize during a crisis.

IV. Majority of industries experienced deterioration of CCC

Changes in Cash Conversion Cycle by sector (days) 2018–2019



Source: CapitalIQ

In terms of CCC performance across sectors, 16 out of 19 industries saw deterioration or longer CCCs. Companies within the pharmaceuticals, semiconductors, apparels and accessories industries experienced the biggest increases in their CCCs as they stockpiled on inventory and raw materials in preparation of further trade tariffs. The chemicals, utilities and consumer staples sectors showed the most improvement or biggest reductions in their CCCs.

Takeaway:

Supply chains today are a complex ecosystem of suppliers and customers that share goods and information across the globe. It’s important for companies to understand their own position and relationships with other players within the ecosystem to proactively manage any disruptions in the supply chain and mitigate impacts to working capital.

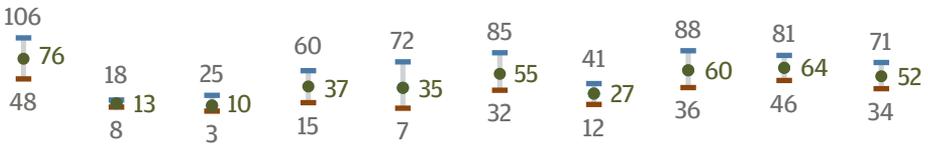
V. Nearly \$500 billion estimated in potential working capital

There remains significant liquidity tied up in the supply chains across the S&P 1500 companies, as observed in the DSO, the DPO and the DIO metrics, as well as the cash levels within industries. (See chart below)

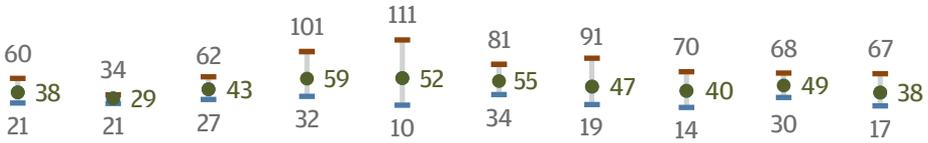
Snapshot of the average working capital performances between the top and bottom performers across 19 industries in 2019 (in number of days)

■ Average of Bottom Performers ■ Average of Top Performers ● Total Average

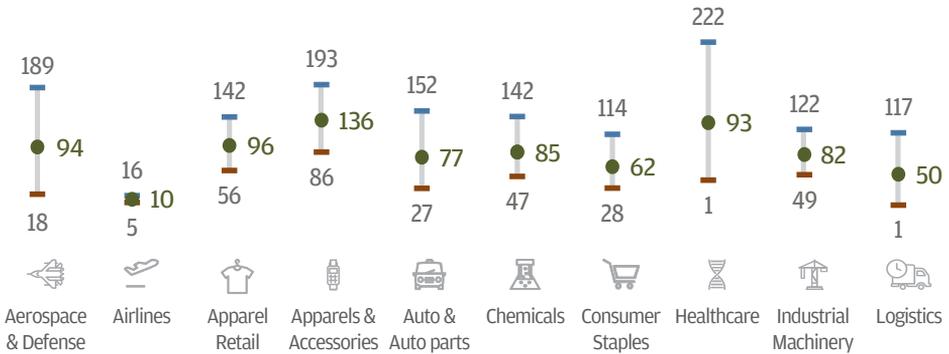
Days Sales Outstanding (Days)



Days Payable Outstanding (Days)



Days Inventory Outstanding (Days)

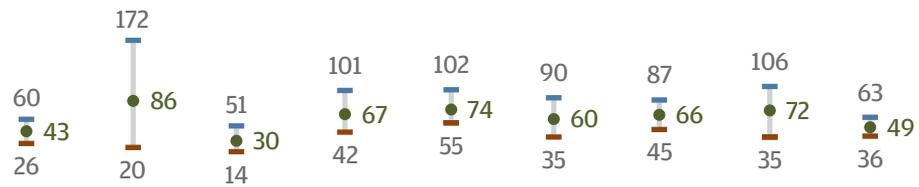


Source: CapitalIQ

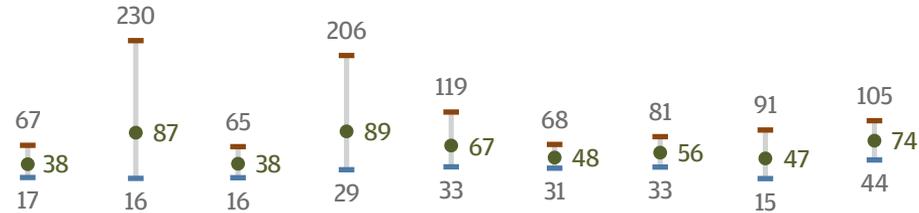
Snapshot of the average working capital performances between the top and bottom performers across 19 industries in 2019 (in number of days)

■ Average of Bottom Performers ■ Average of Top Performers ● Total Average

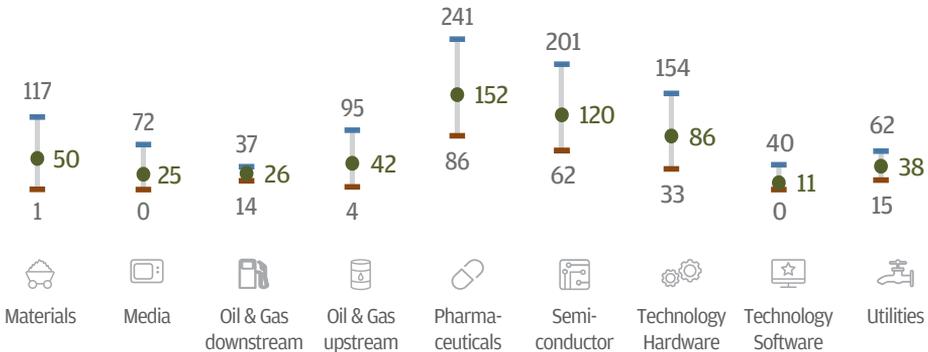
Days Sales Outstanding (Days)



Days Payable Outstanding (Days)

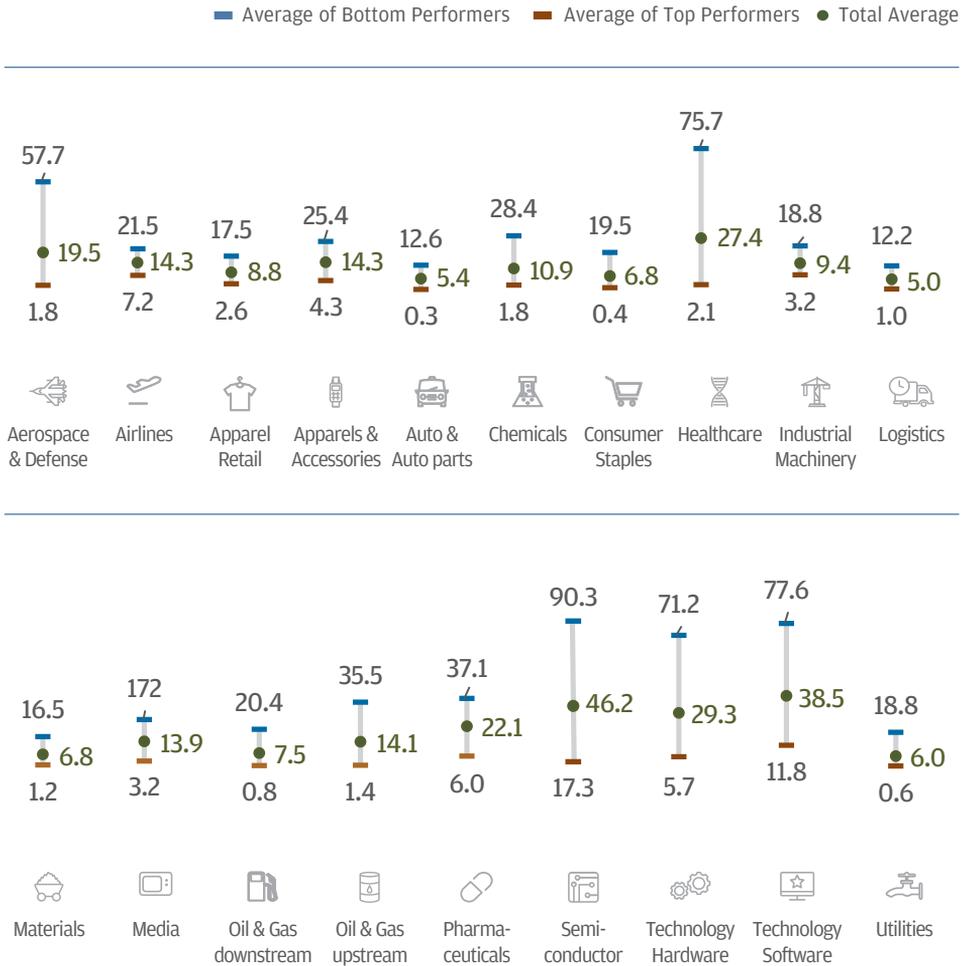


Days Inventory Outstanding (Days)



Source: CapitalIQ

Snapshot of the average cash levels between top and bottom performers across 19 industries in 2019 (in percentage of revenue)



Source: CapitalIQ

Assuming every organization improved its working capital and moved into the next performance quartile in their respective industries across the DSO, the DPO and the DIO metrics, an estimated \$497 billion in working capital may have been released as of year-end 2019, up from \$460 billion in 2018.

Takeaway:

There remains significant capital trapped in the form of working capital that if released can become a vital source of additional liquidity for corporates to manage contingencies in the current crisis.

3. Impact of COVID-19 on Industries

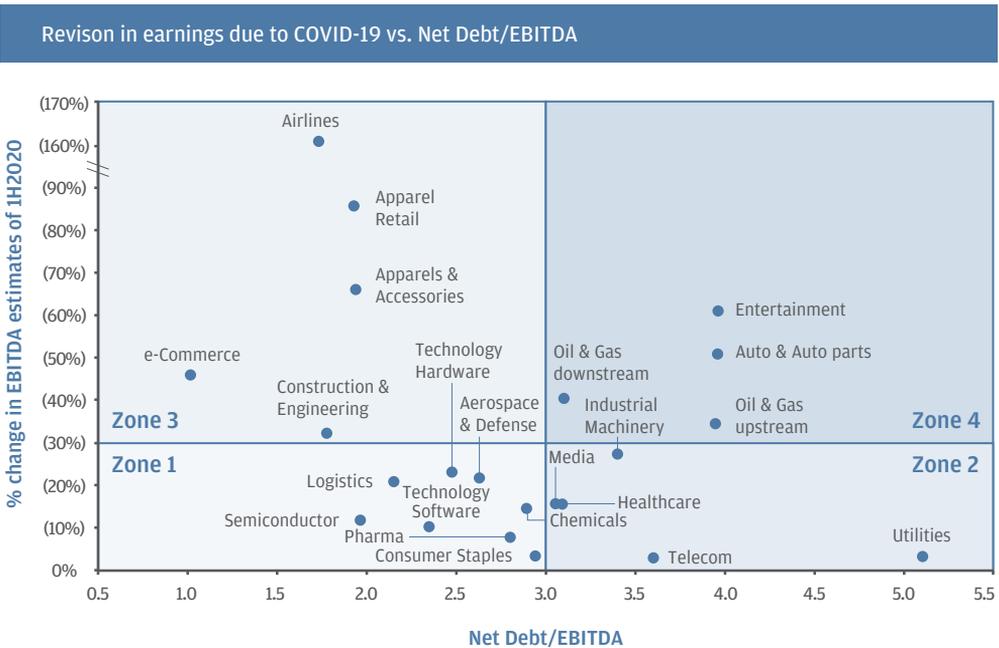
The COVID-19 outbreak has evolved into a global pandemic affecting millions of people in over 200 countries and territories. While the full financial impact on businesses and industries is still being calibrated, the fallout from the crisis is expected to be at a scale not seen since the 2008 global financial crisis.

While the crisis has affected almost every sector worldwide, the magnitude of the impact differs across industries. To assess the extent of liquidity stress that industries are facing, we compared the projected earnings before interest, tax, depreciation and amortization (EBITDA) of the S&P 1500 companies before¹ and after² the global COVID-19 outbreak—as estimated by equity analysts—against the strength of their balance sheets or net debt positions.

The chart below categorizes the industries into four zones:

- Zone 1: Low impact
- Zone 2: Low-to-medium impact
- Zone 3: Medium-to-high impact
- Zone 4: High impact

COVID-19 impact across industries



Source: CapitalIQ

¹ Before COVID-19 outbreak: Based on average industry EBITDA estimates (ending June 2020) as of January 31, 2020

² After COVID-19 outbreak: Based on average industry EBITDA estimates (ending June 2020) as of April 24, 2020

Industries that lie within Zones 1 and 2, such as consumer staples, telecom and utilities will likely be least at risk of liquidity challenges and best positioned to absorb impacts to cash flows.

Sectors in Zone 1, in particular, have lower net debt positions and are better equipped to access liquidity and credit markets.

Industries within Zone 3 face medium-to-high risk depending on the scale of impact on company earnings. Earnings for industries like airlines in this zone will likely be impacted the most due to global travel restrictions curtailing consumer demand.

Sectors within Zone 4, including oil and gas, entertainment and auto industries, will likely be the hardest hit by COVID-19, with the greatest drop in earnings and highest net debt positions. Companies within these industries have little room to stretch their balance sheet and could encounter major liquidity difficulties as a result of the pandemic.

Key industry insights

To illustrate the impact of the COVID-19 crisis on different industries, we examined four sectors facing the greatest liquidity stress according to our zone categorization:

- Oil and gas upstream
- Airlines
- Apparel and accessories
- Auto and auto parts

The analysis also breaks down the working capital parameters into four performance quartiles (with the first quartile representing the performance of the top 25% companies within the industry and the fourth quartile corresponding to the bottom 25%) to enable finance practitioners to identify industry averages and benchmark their organizations' working capital performances against peers.

I. Oil and Gas Upstream



Comparison of working capital parameters within the oil and gas upstream sector 2011-2019 (in average number of days)

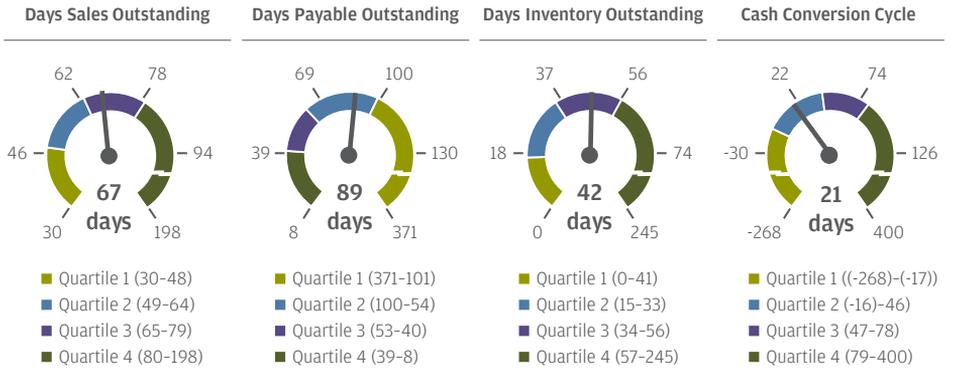


Source: CapitalIQ

The CCC of the oil and gas upstream sector deteriorated by about six days in 2019, as a result of the U.S.-China trade war. Retaliatory tariffs by China on U.S. oil imports caused a decrease in trade activity that spurred a buildup of oil inventory (DIO). Meanwhile, the DSO also lengthened as oil companies offered better credit terms to customers in order to clear excess stock.

Going into 2020, the sector was challenged by another geopolitical dispute where global oil producers Russia and Saudi Arabia engaged in a price war in the first quarter of 2020, discounting oil prices and with both sides stating their intent to ramp up production. Compounded by reduced demand due to COVID-19 as governments around the world imposed travel bans and factory closures, the oil and gas upstream sector faces significant oversupply of oil and an increase in the DIO.

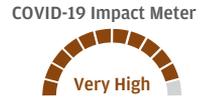
Working capital parameters within the oil and gas upstream sector in 2019 (in average number of days)



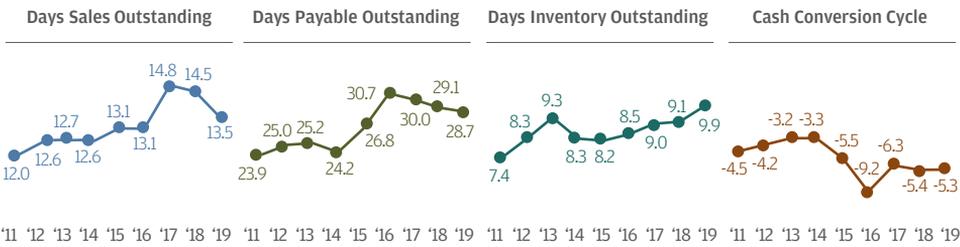
Source: CapitalIQ

In 2019, it took an average of 89 days for upstream companies to pay its suppliers while cash from sales was realized in 67 days. On average, companies maintained 42 days' worth of inventory.

II. Airlines



Comparison of working capital parameters within the airlines sector 2011-2019 (in average number of days)



Source: CapitalIQ

The airlines sector’s CCC remained relatively flat in 2019 compared to the previous year. While there’s been a one-day improvement in DSO as direct sales through online platforms rose, the DIO lengthened while the DPO decreased, negating most of the positive impact from the DSO.

The airlines sector is proving to be one of the hardest-hit industries in 2020 due to COVID-19, as strict travel bans and cancellation of flights across the globe severely impact earnings.

While the oversupply of oil—which has resulted in prices falling to multi-year lows—is typically a positive development for the CCC of airlines, as carriers are able to negotiate better credit terms with fuel suppliers thereby increasing their DPO, this is proving to be of little comfort to the sector as it experiences a collapse in demand.

Working capital parameters within the airlines sector in 2019 (in average number of days)



Source: CapitalIQ

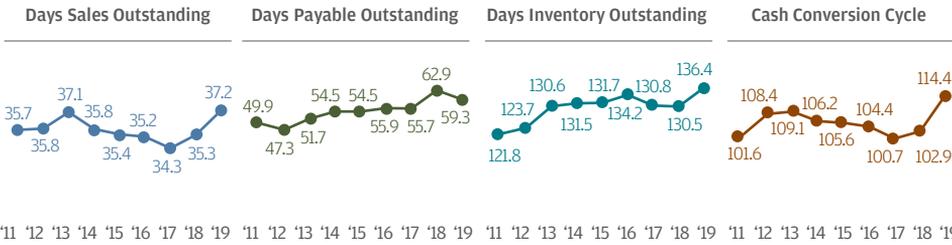
As of 2019, the airlines sector took an average of 29 days to pay its suppliers, while cash from sales was realized in 13 days. Companies maintained 10 days’ worth of inventory on average.

III. Apparels and Accessories

COVID-19 Impact Meter



Comparison of working capital parameters within the apparels and accessories industry 2011-2019 (in average number of days)

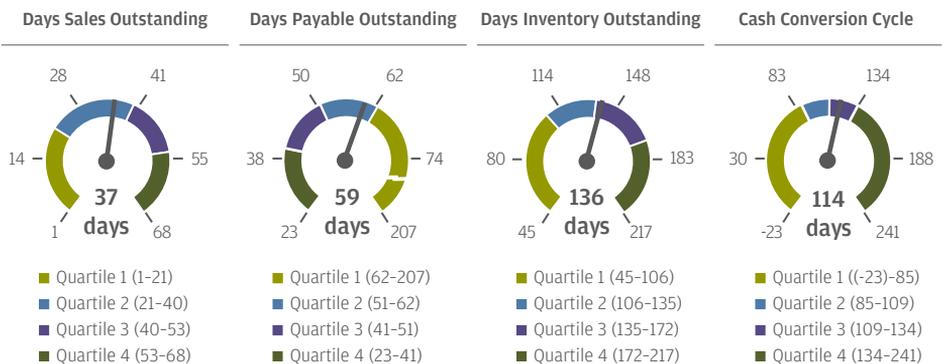


Source: CapitalIQ

The CCC of the apparels and accessories industry deteriorated sharply in 2019 as companies stocked up on inventory, resulting in the rise of the DIO as they looked to manage the impact of the U.S.-China trade dispute. At the same time, as the industry scoured suppliers outside of China for alternative sources of goods, companies had to settle for less favorable payment terms in order to secure supplies, resulting in the reduction of their DPO.

With the onset of the COVID-19 crisis in 2020, the industry will likely continue to be impacted by the disruptions in global supply chains, as well as decreased demand, as consumers spend less on discretionary items. While the inventory is unlikely to clear in a hurry, sourcing for goods will continue to be a challenge, hence the real impact on the CCC remains to be seen.

Working capital parameters within the apparel and accessories industry 2019 (in average number of days)



Source: CapitalIQ

In 2019, it took an average of 37 days for companies within the apparels and accessories industry to turn sales into cash proceeds. The sector held 136 days' worth of inventory, and payments to suppliers were typically made within an average of 59 days.

IV. Auto and Auto Parts

COVID-19 Impact Meter



Comparison of working capital parameters within the auto and auto parts industry 2011-2019 (in average number of days)



Source: CapitalIQ

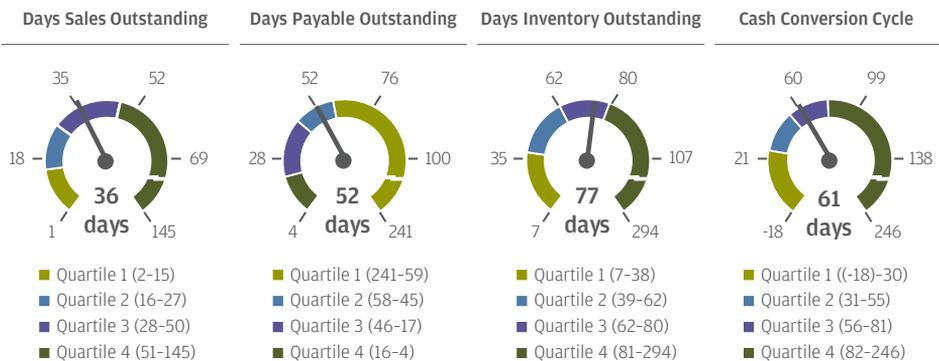
The CCC of the auto and auto parts industry experienced a sharp rise in 2019, likely attributed to a rise in inventory levels as a result of the U.S.-China trade war.

As the industry relies heavily on the imports of both raw materials and finished goods from China, the trade tariffs imposed by the U.S. on automobiles, auto parts, steel and aluminum produced by Chinese manufacturers pressured companies to stockpile inventories to hedge against the additional tariffs.

However, the auto and auto parts industry—already facing demand slowdown—is expected to be further impacted by COVID-19 as consumers cut down on discretionary spending. The sector will also likely face significant supply chain disruptions as the movement restrictions imposed by India and China—major suppliers of autos and auto parts—within their countries to control the pandemic, have resulted in the temporary suspension of manufacturing activities.

With the pandemic impacting the industry on both the supply and demand fronts, companies within the auto sector will likely remain in a vulnerable state.

Working capital parameters within the auto and auto parts sector in 2019 (in average number of days)



Source: CapitalIQ

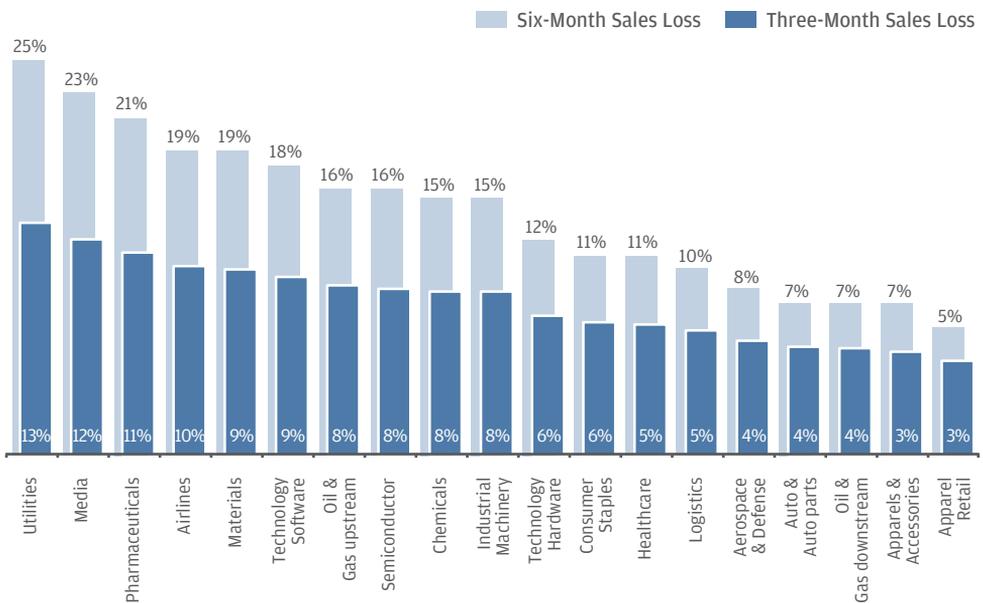
As of 2019, auto and auto parts companies took an average of 52 days to pay off supplier invoices. They maintained an average of 77 days' worth of inventory and took 36 days to convert sales into cash proceeds.

4. Managing Liquidity Risks

The uncertainty over how the COVID-19 pandemic will unfold is creating challenges for businesses to accurately predict their liquidity needs. To help with the forecasting, we developed an approach using historical data to gauge the sensitivity of a firm’s cash flow from operations to a change in sales. The ratio can be used to provide a rough estimate of a company’s liquidity requirement at a point in time.

The approach takes into account two different scenarios: a loss of three months’ worth of sales (assuming 25% loss in annual sales) and a loss of six months’ worth of sales (assuming 50% loss in annual sales).

Scenario analysis - Liquidity requirements in case of sales loss (percentage of annual sales)



Source: CapitalIQ

Note: This analysis provides a rough approximation of liquidity requirements based on historical data and assumptions. Corporates should only use it as a guide and do their own analysis to arrive at their liquidity requirements. The values may not hold true if the pandemic situation prolongs for a longer time.

Industries with high levels of sensitivity like utilities, airlines and pharmaceuticals generally have higher fixed costs. With little room to further reduce expenses, a loss in sales will likely result in a big impact to a company’s cash flows, indicating that these firms would have a greater need for additional liquidity to help manage cash flow disruption.

Industries on the opposite end of the scale, such as apparel retail, apparels and accessories, and oil and gas downstream, tend to have lower fixed costs and are better positioned to manage their expenses even as sales decline. The need for additional liquidity for these industries will generally be lower.

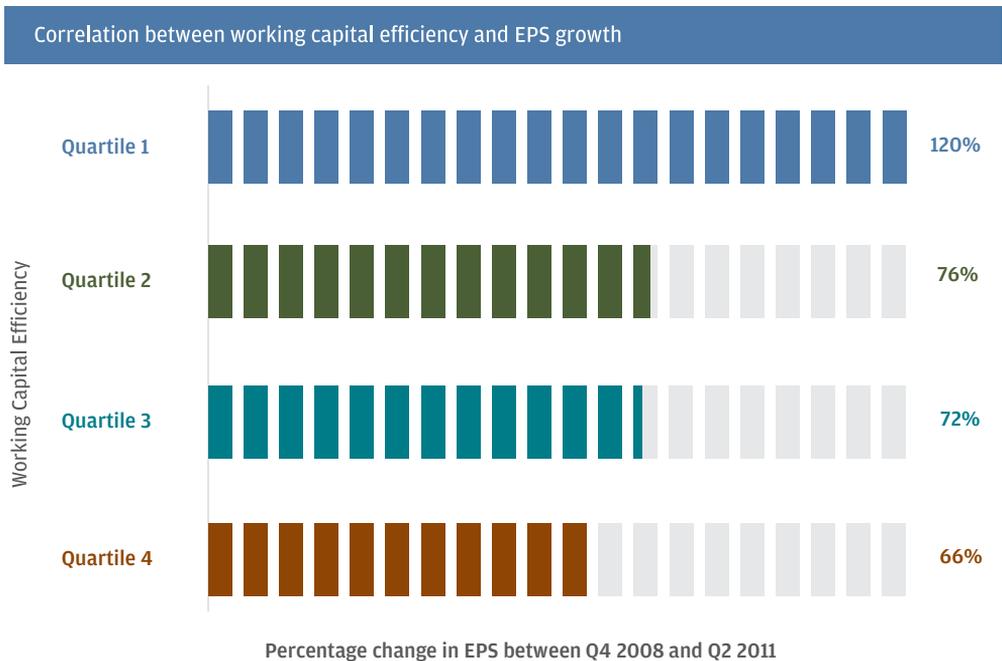
To estimate the liquidity requirements of an organization, finance practitioners can multiply the firm’s 2019 full-year sales revenues with the sensitivity ratio of the industry.

A Lesson from History

The impact of COVID-19 has been unprecedented in many ways, from the speed and magnitude at which the pandemic has spread to the manner with which governments have responded. But economic shocks are not new to the global economy and there are lessons we can adopt from previous events to emerge stronger when the situation begins to improve.

Examining data from the 2008 financial crisis, we identified a strong correlation when the CCC of companies and the growth of their earnings per share (EPS) recorded during the fourth quarter of 2008, at the height of the crisis, were compared against the same readings during the second quarter of 2011, post the financial crisis.

Companies with lower CCCs or better working capital management (categorized as Quartile 1 in the chart below) showed the highest EPS growth over the period, demonstrating a stronger and quicker rebound from the crisis as compared to companies in the remaining quartiles.



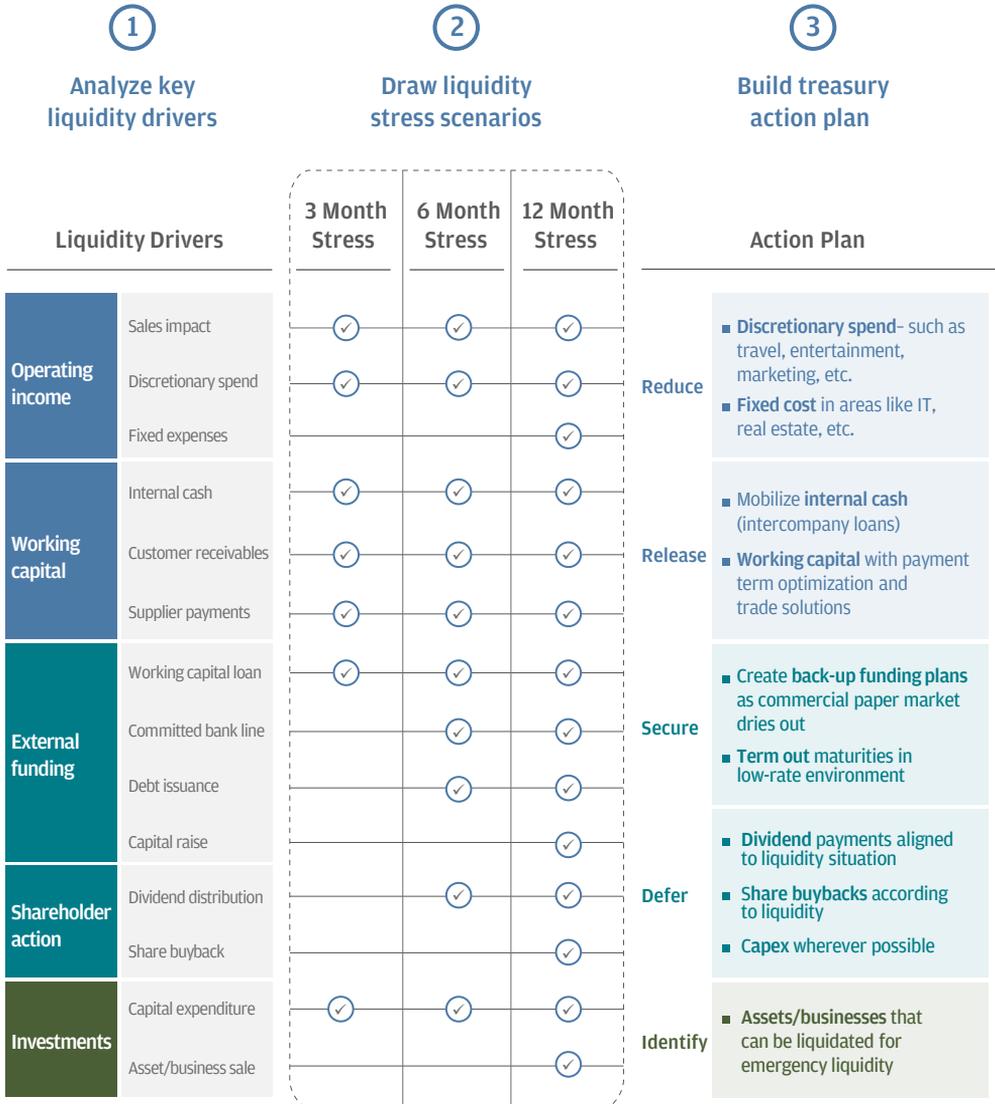
Source: CapitalIQ

Note: S&P 1500 companies have been categorized into four quartiles based on their CCC, with the first quartile representing the top 25% companies with the shortest CCC within their industries, while the fourth quartile corresponds to the bottom 25% companies with the longest CCC in their respective sectors.

Companies face enormous pressure to manage liquidity needs in times of crises. Effective working capital management strategies not only help improve funding requirements but also position organizations for robust recovery.

Building a Liquidity Plan

The most important risk a corporate has to manage during a crisis relates to liquidity or the risk of running out of cash to meet payment obligations. The following three-step framework can serve as a high-level guide for companies to consider as they navigate the crisis.



Step 1: Analyze liquidity drivers

Corporates should consider identifying all possible liquidity drivers that may impact the firm's cash position. While these may vary across industries and business models, common areas where companies can release liquidity include operating income, working capital, external sources of funding, shareholder action and investments.

Step 2: Draw up stress scenarios

It's important that companies create various stress scenarios (e.g., three months, six months, 12 months) and assess the firm's liquidity requirements under each case. Based on the analysis, companies should be able to identify the liquidity drivers it can tap into under different situations to meet its funding needs as the situation evolves.

Step 3: Build a dynamic action plan

With each scenario, companies can consider creating an action plan to highlight the key measures it needs to take to manage the various liquidity drivers. Treasurers could utilize the following framework to match each action item with the specific liquidity drivers identified:

- Reduce fixed costs in non-essential activities like IT or real estate and limit unnecessary discretionary spends, such as travel and entertainment in the short term
- Release funds trapped within working capital across the organization through payment term optimization and trade solutions, and mobilize cash internally as needed
- Secure financing by building out back-up plans to seek additional sources of cash
- Defer share buybacks, dividends and capital expenditures, wherever possible
- Identify non-core assets and businesses that can be liquidated in the longer run to generate emergency liquidity

It is important for corporates to safeguard continuity during a crisis, but not necessarily at the expense of its relationships with suppliers or customers. Companies should consider exploring trade solutions like supply chain financing that could help optimize their own capital while helping suppliers manage their liquidity.

5. Conclusion

The global economy has come under tremendous pressure as a result of the COVID-19 crisis, from massive supply chain disruptions to a collapse in consumer demand. Coupled with the plunge in oil prices, the impact to businesses across industries will be extensive. With corporates impacted differently, there isn't a one-size-fits-all solution to navigate the uncertainty, but treasurers can follow a number of best practices to better manage the crisis

Follow a structured approach

To prepare the business for potential impacts as a result of the pandemic, treasurers should consider drawing up different stress scenarios and formulate a comprehensive action plan for each. They should look into all possible sources of funding to generate liquidity and put in place measures to tap into them when needed.

Focus on internal efficiency

An estimated \$497 billion remains tied up in the working capital of the S&P 1500 companies. By using multiple levers to manage inventory, receivables, payables and cash, treasurers may identify internal working capital inefficiencies and unlock liquidity to effectively navigate through uncertainties.

Learn from the past, prepare for the future

Empirical data suggests a clear correlation between a company's working capital efficiency during the 2008 global financial crisis and its earnings growth as it recovered from the crisis. As the world awaits the eventual economic recovery from COVID-19, treasurers can start deploying working capital management tools and position their business for success, once the recovery kicks in.

6. Summary of Findings

\$497 Billion

Estimated working capital that can be released across S&P 1500 companies



60% of companies experienced a deterioration in CCC where



showed a lengthening in DSO



experienced an increase in DIO

Top 3 industries with the highest decline in cash levels in 2019

6.3%

Oil & Gas Upstream

4.2%

Technology Hardware

3.8%

Technology Software

Industries most impacted by COVID-19 (based on earnings revisions)



Airlines



Apparel Retail



Apparels & Accessories



Auto & Auto Parts



Entertainment

Growth in earnings per share post-crisis:



120%

Companies with the top-performing CCC

66%

Companies with bottom-performing CCC

Companies with improved CCC showed nearly **50%** additional growth in earnings per share post the global financial crisis.

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