Working Capital
Index Report 2022
Helping companies
benchmark for success
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Introduction

After the world witnessed the massive shocks created by the COVID-19 pandemic, the year 2021 was marked by transition from survival to revival thanks to continuous government stimulus and efficient vaccine rollouts. This edition of the Working Capital Index report captures the working capital trends of 2021.

The economic recovery began in 2021, but it was accompanied by supply chain disruptions caused by supply shortages, greater-than-expected demand and logistical hinderances. These factors resulted in significant working capital volatility during the year.

A new set of issues for companies has already arisen in 2022 like the conflict between Russia and Ukraine, reimposed COVID lockdowns in China and the interest rates hikes. These are expected to further create supply-demand volatility affecting the working capital of corporates. For corporates, it is crucial to effectively manage their working capital amidst supply chain challenges and stay on the road to recovery.

Through insights derived from the analysis of working capital metrics, this report will help corporates benchmark their working capital performance and prepare themselves better for 2022.

In this issue, we will:

→ Examine the performance of Working Capital Index, Cash Index and Cash Conversion Cycles (CCC) of the S&P 1500 companies in the past year
→ Provide industry insights and performance in 2021
→ Analyze and identify key focus areas for various industries
→ Identify the key drivers of change across industries that will create long-term impacts

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:

\[ \text{Average NWC} = \frac{\sum_{K=1}^{n} \frac{\text{Net Working Capital}_K}{\text{Sales}_K}}{n} \]

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

\[ \text{Average Cash} = \frac{\sum_{K=1}^{n} \frac{\text{Cash}_K}{\text{Sales}_K}}{n} \]

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

\[
\text{CCC} = \text{DSO} + \text{DIO} - \text{DPO}
\]

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 have been gathered from Capital IQ for the purpose of calculations.

The trends extracted from our analysis were validated against insights from J.P. Morgan’s research team.
I. Working Capital Index returns to pre-covid range

After peaking in 2020, J.P. Morgan Working Capital Index sharply reversed its direction and improved by 11.2 points in 2021. On average across the S&P 1500 companies, overall sales rose by 20% in 2021, resulting in an average eight-day reduction in the time taken to convert inventory purchases into cash flows. Supported by fiscal and monetary policy, the uplifted economic activity gave rise to higher-than-expected demand which meant corporates generated more sales, holding onto inventory for less time, reducing DIO. Inventory reductions were also driven by supply-side disruptions like raw material shortages and logistic bottlenecks.

With sales spiking upward, S&P 1500 index companies also experienced improvement in DSO due to increasing demand from end customers and benefitting from faster collections.

Global disruptions like the Russia-Ukraine war and the recent pandemic lockdowns in China are expected to further drive uncertainties and supply chain disruptions, materially impacting the working capital management.

**Takeaway:**
With geopolitical uncertainties plus the convergence of increasing interest rates and economic recovery, treasurers must focus on working capital management to ensure businesses endure near-term uncertainty while growing amid economic recovery.
II. Cash index reverses direction

The Cash Index improved by 6.0 points in 2021 as S&P 1500 companies shifted to deploy cash more strategically after a long period of cash preservation. The pandemic-induced slowdown in 2020 compelled companies to build additional liquidity buffers by cutting down on expenses, halting capex and share buybacks, and raising external funding. As demand started to pick up, companies began putting cash to use in 2021.

Companies primarily deployed cash in 2021 on capital expenditures, increased payouts to shareholders as share buybacks and dividends, and for M&A activities across the globe.

Takeaway:
Cash deployment was the key theme for treasurers in 2021 amid economic recovery, and it’s expected to remain the focus moving forward as higher interest rates increase the cost of liquidity inefficiencies and as corporates look to invest in strategic capex as a result of nearshoring to alleviate over-reliance in the supply chain. However, treasurers must be cautious as economic recovery is expected to be volatile owing to geopolitics tensions, inflation risks, monetary tightening, logistical and supply-side challenges creating business uncertainty, particularly with regards to procuring the required amount of raw materials and inventory.
III. Positive signs for the Cash Conversion Cycle after three years

Average working capital performance parameters across the S&P 1500 companies 2012-2021 (in average number of days)

Corporates experienced an eight-day improvement to cash conversion cycles (CCC). This improvement was largely driven by economic recovery supported by fiscal stimulus and favorable monetary policy. Days Sales Outstanding (DSO) declined by 6.4 days as companies could bargain for faster terms given recovery in demand. This trend was further supported by increased adoption of digital sales channels and Direct-To-Consumer sales strategies. These operating models resulted in faster collections and shorter DSO.

Days Payable Outstanding (DPO) substantially rose in 2020 as companies extended payments as a liquidity conservation measure; However, it declined 3.7 days in 2021 as increased economic activity reduced pandemic-induced liquidity conservation policies that lead to the prior year’s spike. Equally, with increased competition for sourcing, large corporates are focused on sustainability of their supply chain in the near-term and diversification in the medium-term. The days of stretching payables to harvest working capital will be muted until there is meaningful improvement in the demand and supply equilibrium for manufacturing. Days Inventory Outstanding (DIO) levels dropped 5.3 days given the growth in overall sales and supply chain disruptions, which meant inventory levels were churned faster.

Takeaway:

2022 has begun with a perfect storm of supply chain disruption, geopolitical tensions and quantitative tightening in response to the 40-year high inflation, which is causing volatility in the overall economy. Companies need to closely review their end-to-end supply chains to be able to withstand the supply shock in order to build sustainability and resiliency, which is heightening the pressure on working capital. Efficient working capital can also unlock significant value and free up cash for investing in strategic areas including capital expenditure, ESG or share buybacks.
IV. Majority of industries experienced improvement of CCC

Changes in Cash Conversion Cycle by sector 2020-2021

In 2021, 15 of 19 industries had improved CCC performance, which starkly contrasted 2020 when most industries showed deterioration. Among the industries, pharmaceuticals saw the highest CCC improvement with an average decline of 32.6 days. The industry witnessed an increase in sales of 27% in 2021, mainly as a result of the vaccine rollout. The increase in sales, in combination with the shortage of raw materials and logistical challenges, led to a reduction in DIO by 30.4 days. The correlation between sales growth and improved DIO levels is also visible in the apparels & accessories and automotive industries, whereby robust consumer demand led to an increase in revenue of 24% and 21% respectively and as a result inventory was converted into sales quicker, reducing DIO by 27.0 and 7.6 days, improving CCC.

Takeaway:

With most of the economies opening up and central banks pulling back on stimulus, companies need to focus their attention towards the looming issues such as disruptions in supply chain, higher inflation and interest rate hikes. These forces will largely carve out the path forward for the working capital management strategies.
V. More than $520 billion estimated in potential working capital

Across industries, S&P 1500 companies still have significant inefficiencies in working capital management as observed in the DSO, DIO and DPO metrics (see chart below).

Snapshot of the average working capital performances between the top and bottom performers across 19 industries in 2021 (in number of days)

Days Sales Outstanding (Days)

Days Payable Outstanding (Days)

Days Inventory Outstanding (Days)

Source: Capital IQ
Snapshot of the average cash levels between top and bottom performers across 19 industries in 2021 (in percentage of revenue)

Cash

<table>
<thead>
<tr>
<th>Industry</th>
<th>Average of Bottom Performers</th>
<th>Average of Top Performers</th>
<th>Total Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace and Defense</td>
<td>56.9%</td>
<td>86.3%</td>
<td>69.0%</td>
</tr>
<tr>
<td>Airlines</td>
<td>22.5%</td>
<td>58.0%</td>
<td>39.1%</td>
</tr>
<tr>
<td>Apparel Retail</td>
<td>4.8%</td>
<td>37.4%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Apparel and Accessories</td>
<td>22.3%</td>
<td>22.3%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Automotive</td>
<td>34.0%</td>
<td>34.0%</td>
<td>25.6%</td>
</tr>
<tr>
<td>Chemicals</td>
<td>8.9%</td>
<td>8.9%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Consumer Staples</td>
<td>15.8%</td>
<td>19.8%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>20.4%</td>
<td>28.6%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Industrial Machinery</td>
<td>29.1%</td>
<td>69.0%</td>
<td>43.6%</td>
</tr>
<tr>
<td>Logistics</td>
<td>4.8%</td>
<td>56.9%</td>
<td>14.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Industry</th>
<th>Average of Bottom Performers</th>
<th>Average of Top Performers</th>
<th>Total Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>19.1%</td>
<td>1.8%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Media</td>
<td>47.1%</td>
<td>5.0%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Oil &amp; Gas downstream</td>
<td>25.0%</td>
<td>17.1%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Oil &amp; Gas upstream</td>
<td>17.1%</td>
<td>7.2%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>41.5%</td>
<td>18.6%</td>
<td>24.3%</td>
</tr>
<tr>
<td>Semiconductor</td>
<td>68.9%</td>
<td>31.4%</td>
<td>46.4%</td>
</tr>
<tr>
<td>Technology Hardware</td>
<td>78.6%</td>
<td>40.8%</td>
<td>55.1%</td>
</tr>
<tr>
<td>Technology Software</td>
<td>56.4%</td>
<td>26.2%</td>
<td>37.8%</td>
</tr>
<tr>
<td>Utilities</td>
<td>91.4%</td>
<td>45.3%</td>
<td>59.1%</td>
</tr>
</tbody>
</table>

Source: Capital IQ

Companies could have freed up $523 billion in working capital by year-end 2021 if they moved into their next performance quartile for their respective industry across DSO, DPO, and DIO metrics.

1 For every working capital parameter we have split the companies within each industry into four performance quartiles (with the first quartile representing the performance of the top 25 percent companies within the industry and the fourth quartile corresponding to the bottom 25 percent). The free cash flow release calculation assumes that a company moves from its existing performance quartile to the next best performance quartile and quartile one companies remain at their current levels.

Takeaway:
The increase in trapped liquidity implies that companies have scope to manage their working capital more effectively. As companies are now grappling with near term uncertain events, they should look at industry best practices to leverage their trapped capital for funding growth and mitigating supply shocks.
I. Outlook Summary and ESG Analysis

The economy strongly recovered in 2021 aided by robust stimulus, dovish monetary policies and high vaccination rates. While recovery is set to continue in 2022, it will be affected by near-term challenges including geopolitical tensions, high interest rates, inflation and tightening by central banks. We also expect companies to boost their capital expenditure in 2022 to build supply chain resiliency, accelerate the impacts of nearshoring to alleviate over-reliance on Asia and combat the logistical challenges.

Additionally, the relevance of environmental, social and governance (ESG) has increased more throughout 2021 than many had expected. ESG has become a key area of focus for a range of stakeholders including investors, customers and regulators. The trend is expected to continue in 2022 as well, and it remains a priority for corporates attracting significant investments.

ESG is one of many priorities, and other examples include share buybacks, debt rationalization due to interest rate hikes, and capital expenditures to fund recovery-led growth. Given these competing priorities, companies must prudently plan their funding utilization and sources. ESG has also become a key factor for lenders. Specifically, it impacts the availability for financing since a good ESG rating helps a company access external sustainable financing compared to lower-rated businesses. Given the current environment and strategic priorities for the corporates, it can be advantageous for companies to explore cheaper internal sources of funding via working capital and liquidity optimization, which presents significant opportunity.

To identify the key priorities for different industries, we have compared 2022 percentage changes in Capital Expenditure Estimates over 2021 actuals for S&P 1500 companies. For 2021 actuals, we used Indebtedness (Net Debt to EBITDA levels as of 2021). We then overlayed their ESG Risk score to identify the accessibility of external financing options for these companies.

Based on the analysis we have classified the industries into-

- **Tier 1** - Higher estimated Capex and High Indebtedness
- **Tier 2** - Higher estimated Capex and Low Indebtedness
- **Tier 3** - Low estimated Capex and High Indebtedness
- **Tier 4** - Low estimated Capex and Low Indebtedness
Industries that are classified as **Tier 1** are in a tough position because they must balance spending on new opportunities while minimizing increasingly expensive debt. Some industries are expected to see major growth this year after a tough two years due to pandemic slowdown, which requires them to invest in capex. However, these companies are highly levered, which limits their ability to access external financing. This financing is expected to become increasingly expensive going forward, so some of these companies with over-stretched balance sheets will need to rationalize their debt levels over the next few years. Industries with poor ESG ratings must also prioritize ESG investments, so they further split the usage of funds.

Industries that lie in **Tier 2** also want to invest in business growth in 2022, however unlike Tier 1 companies, they are relatively less levered which results in a stronger balance sheet that better positions them for these purchases. However, rising interest rates are driving sub-optimal external financing, which negatively impacts their Return on Equity (ROE). These companies may consider funding growth through cheaper and more optimal internal sources such as working capital and liquidity.
Industries that fall in Tier 3 may see minimal need to invest in capex compared to Tier 1 and Tier 2. However, in cases where they are highly levered and a sub-optimal capital structure, they may prioritize optimizing leverage by reducing debt to better manage their increased cost. Companies with more comfortable leverage position may want to return some of the excess cash back to its investors via share buybacks and dividends.

Industries that lie in Tier 4 have adequate funds to invest in new opportunities but may have minimal high-priority ventures. One idea for using funds is allocating them toward ESG ratings goals, which is an area where some industries lag. Companies can also increase payouts to shareholders via share buybacks and dividends. They may also use excess funds for solutions like dynamic discounting, which helps amid the high inflation environment as increasing cost of raw materials pressure margins.

**Takeaway:**

Corporates are going to have multiple strategic priorities for the next year governed by near to medium term macro risks, future growth opportunities and financial strength of the companies. Corporate treasuries will be critical to success of these objectives as they help to navigate through the near-term risks as well as effectively manage working capital and liquidity to support investments in strategic areas.
II. Industry-Specific Insights

To illustrate the extent of COVID-19 impact on different industries, we examined four sectors representing the different tiers, which are:

- Pharmaceuticals
- Apparel and Accessories
- Automotive
- Oil and Gas Downstream

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

Comparison of working capital parameters within the Pharmaceutical Industry 2011–2021 (in average number of days)

Pharmaceutical companies exhibited a sharp improvement in working capital in 2021. Overall Cash Conversion Cycle for the industry improved by 33 days from 2020. The companies benefitted significantly from the pandemic due to elevated demand for COVID-related drugs and vaccines (27% increase in revenue on average across the industry). With sales exceeding production levels, high demand accompanied by limited supplies sharply reduced the average number of days to convert inventory into sales (DIO) and collection time during the year.

Pandemic-led drug shortages exposed supply chain risks. These shortages are expected to compel pharma players to proactively manage their inventories and create supply chain resiliencies and in some cases bring manufacturing closer to home to alleviate over-reliance on suppliers.

Working capital parameters within the pharmaceuticals industry 2021 (in average number of days)

In 2021, pharmaceutical companies averaged 66 days to pay suppliers while cash from sales was realized in 61 days. On average, companies maintained 133 days’ worth of inventory.

Source: Capital IQ
B. Apparel and Accessories

Comparison of working capital parameters within the apparel and accessories sector 2011–2021 (in average number of days)

<table>
<thead>
<tr>
<th>Days Sales Outstanding</th>
<th>Days Payable Outstanding</th>
<th>Days Inventory Outstanding</th>
<th>Cash Conversion Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>33 days</td>
<td>74 days</td>
<td>138 days</td>
<td>97 days</td>
</tr>
</tbody>
</table>

Source: Capital IQ

Cash Conversion Cycle for this industry sector shortened in 2021 by 25 days on average as companies experienced stronger rebounds with pent-up demand. As stores opened and online sales remained strong, inventories started selling out, which resulted in operational recoveries and revenues (revenues up 24% on average). DSO improved drastically going even below the pre-pandemic levels as the demand outstripped supply supporting faster collections by the companies from the customers. DSO improvement was further supported by increased share of online sales during the year resulting in reduced time to collect.

The DPO cycle also shortened by 13 days. In the prior year, DPO spiked by 27 days as companies delayed their vendor payments or used supply chain financing solutions to manage their liquidity needs. However, with the recovery beginning in 2021, some of these measures are withdrawn.

Working capital parameters within the apparel and accessories industry 2021 (in average number of days)

<table>
<thead>
<tr>
<th>Days Sales Outstanding</th>
<th>Days Payable Outstanding</th>
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<tr>
<td>33 days</td>
<td>74 days</td>
<td>138 days</td>
<td>97 days</td>
</tr>
</tbody>
</table>

Source: Capital IQ

In 2021, companies within the apparels and accessories industry took an average of 33 days to turn sales into cash proceeds. The sector held 138 days’ worth of inventory, and payments to suppliers were made in 74 days.
C. Automotive

Comparison of working capital parameters within the automotive sector 2011–2021 (in average number of days)

Source: Capital IQ

Automotive industry experienced strong sales momentum in 2021. Cash Conversion Cycle improved by 17 days following low interest rates, stimulus packages and rental car market demand. Meanwhile, the industry saw a 21% increase in revenue which has resulted in an DIO reduction of 8 days given higher-than-anticipated demand, pandemic-driven supply chain issues, and semiconductor shortages. Given the limited supply of new cars, the auto suppliers witnessed growth, and demand for used cars increased, which required more maintenance and aftermarket services. Demand outstripping supply also resulted in faster collections as auto suppliers could bargain for better terms from customers, improving DSO by 7 days.

Working capital parameters within the automotive industry 2021 (in average number of days)

Source: Capital IQ

In 2021, automotive industry averaged 60 days to pay off supplier invoices. They maintained an average of 78 days' worth of inventory and took 32 days to convert sales into cash proceeds.
CCC significantly improved by 10 days in 2021 after peaking in the prior year due to the pandemic suddenly reducing demand. As countries eased lockdown (albeit at varying levels across regions) and the pandemic receded, the demand for liquid fuels picked up sharply in 2021 by 6% yoy. Global oil demand is also outpacing supply with renewable sources not yet becoming a sufficient substitute due to their relatively weak output. An increase of 68% in revenues was generated as a result of the increase of demand as the global economy returned to normal. This in combination with the supply constraints lead to a record reduction in inventory levels from 35.8 days to 21.7 days. DSO also improved with high demand for refined products as companies could bargain for faster terms and due to unwinding of liquidity preservation measures by their customers as the working capital position improved for them. DPO also substantially dropped as downstream companies more quickly paid upstream companies to source crude oil, which was in short supply during 2021.

Source: U.S. Energy Information Administration, Short-Term Energy Outlook, April 2022

In 2021, the oil and gas downstream industry averaged 33 days to pay off suppliers, maintained 22 days of inventory and took 26 days to turn sales into cash proceeds.
III. Emerging Cross-Industry Themes

<table>
<thead>
<tr>
<th>ESG Agenda</th>
<th>Oil and Gas</th>
<th>Materials</th>
<th>Automotive</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Diversifying into clean energy</td>
<td>- Focus on CCS and Recycling</td>
<td>- Expanding EV Production</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supply Chain Diversification</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Automotive Nearshore + Vertical Integration</td>
</tr>
<tr>
<td>- Apparel and Accessories Nearshoring production</td>
</tr>
<tr>
<td>- Technology Hardware Stock buffers of critical supplies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tech Driven Business Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Automotive Focus on Connected Cars and in car services</td>
</tr>
<tr>
<td>- Apparel and Accessories Incorporating Augmented Reality and V-Commerce</td>
</tr>
<tr>
<td>- Quick Service Restaurants Autonomous delivery and AI adoption</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Direct to Consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Healthcare Expanding into Telehealth</td>
</tr>
<tr>
<td>- Quick Service Restaurants Integrated loyalty programs</td>
</tr>
<tr>
<td>- Automotive Online sales channels and Subscription business</td>
</tr>
</tbody>
</table>

Over the past two years, businesses have endured many unforeseen challenges and adapted to extraordinary circumstances posed by the pandemic. During this time, certain themes have risen in prominence and are fundamentally altering how companies operate, raise capital, and deliver goods and services.

The themes are:

- ESG agenda
- Supply chain diversification
- Tech-driven business models
- Direct to consumer

The increased adoption of these themes is driven by a push effect from stakeholders like consumers, regulators and investors. It’s also driven by a pull effect from companies to mitigate their risks and generate new revenue sources.

With long-term and permanent impact on how companies operate and make decisions, this is also expected to greatly influence the supply chain ecosystems and how corporates interact in that ecosystem.
ESG Agenda

ESG has come to the forefront for corporates given increased importance from consumers, investors, policy makers and other key stakeholders. Industries are motivated to comply with net zero targets given increased shareholders activism, changing consumer preferences, regulatory disclosure requirements, and a policy push to achieve decisive action in this area. In response, companies are re-evaluating their business models, operations and supply chains and they are heavily investing to improve their ESG profile. Treasurers and finance teams are also increasingly embedding ESG into their decision making process across various treasury linked activities including investments, procurement and financing. Some cross-industry examples are mentioned below:

- **Oil & Gas**: Oil and Gas companies are diversifying into clean energy through expanding renewable energy production or acquisition of clean energy companies. The industry is also investing heavily on Carbon Capture and Storage technologies to achieve Net Zero pledges.

- **Auto**: Auto makers are shifting their production focus amid increased demand for Electric Vehicles, and some key players have even pledged phasing out of internal combustion engine polluting fuel cars.

- **Metals & Mining**: Metals and Mining players have focused their operations on mining the metals needed in the energy transition. They’re also entering used metals recycling markets by expanding their recycling capacity.

Supply Chain Diversification

As exposed by pandemic, global supply chains today are prone to major disruptions resulting in wide scale hinderances in normal operations, inventory shortages and higher costs. To mitigate the risks and build more agility in their supply chains, companies have increasingly started to implement strategies such as localization of supply chains, near shoring, diversifying supplier base and digitizing procurement process. Companies are also considering creating buffer stocks of essential components to minimize the impact of any disruption in the supply chain. Some examples across industries are mentioned below:

- **Apparel and Accessories**: Some of the companies in the industry are revisiting their network of suppliers and enforcing nearshoring strategies, to alleviate over-reliance on suppliers and reduce transportation costs.

- **Consumer Electronics**: Companies that operate in consumer electronics Industry faced severe crisis from the semiconductor and components shortage. Some companies in the industry are shifting from “just in time” model to “just in case” model, keeping an additional buffer of key components to build more resiliency.

Technology Driven Business Models

Technology is evolving fast and is opening up new, additional revenue streams for corporates, which may replace current mainstream revenue sources. AI, IoT Blockchain and Virtual Reality are the technologies in focus and supported by the innovation in payments, they are changing how companies interact and deliver services to consumers.

- **Auto**: Automakers are investing into connected cars market to engage with their consumers directly and also generate additional revenue from in car services.

- **Apparel and Accessories**: Some companies in the Apparels and Accessories industry have started using Augmented Reality technology for a more wholesome consumer experience. Some players have also tapped the metaverse and opened stores in decentralized space to engage with its customers.
Direct to Consumer

Given increased internet penetration and rising competition, Companies have tapped omnichannel strategies, expanded into marketplace model and engaged customers via steps such as loyalty programs. This trend is not new, but the pandemic further accelerated it as customers resorted to online modes of buying goods and availing services; companies had to find alternate ways to reach their consumers given government imposed restrictions. Companies now have become more comfortable reaching directly to customers whether it’s a B2B or B2C business. Some examples include:

→ **Healthcare**: Healthcare companies have adopted the remote model of health monitoring and teleconsultation, which gained pace during the pandemic.

→ **Auto**: During the pandemic, auto and auto part manufacturers moved to online channels to increase their sales given restrictions. Some companies also invested into alternative business models like offering subscription services.

All these fundamental changes will materially impact corporates’ working capital as companies adjust their supply chains to create supplier diversification or entirely new businesses that capitalize on emerging trends. Supply chains will become more complex as companies deal with new suppliers in new locations or in some cases operate in completely new ecosystems of suppliers and customers.

**Takeaway:**

As the businesses are adapting to the fundamental shifts influenced by external and internal forces, supply chains are becoming more complex. Treasury will have a critical role to play in managing this complexity as they are responsible for identifying and projecting the liquidity and funding needs of the business. Digitization and data are going to be crucial levers for treasurers to leverage as they look for most optimized outcomes for the businesses both in terms of working capital optimization and improvement in supply chain resiliency.
Corporates were challenged in 2021 as they dealt with the Covid-19 pandemic and global supply chain disruptions. However, many businesses shifted to recovery mode supported by the fiscal stimulus and monetary policies of central banks. In 2022, corporates will have to navigate new challenges such as high inflation, new lockdowns in China, the Ukraine-Russia war, and quantitative tightening – which all contribute to a volatile economic recovery.

In the next year, corporate treasurers must be proactive to manage these multiple near-term risks simultaneously while ensuring they can support the business in capturing long-term opportunities and growth driven by the recovery.

As interest rates are increasing, treasurers must also prioritize tapping into cheaper internal sources of capital given multiple competing priorities and the need to maintain a liquidity buffer against short-term volatility and risks. For example, rising borrowing costs will temper bond and bank new issuance, creating an appeal for liquidity sources derived through the sale of assets such as receivables.

Efficiently managing working capital will be crucial to achieve that goal as it can free significant funds for corporates to meet their needs for risk management and long-term value creation. With treasury’s role becoming increasingly important as a strategic advisor, the department can also incorporate corporate strategic objectives into its working capital management strategy. Solutions like sustainable Supply Chain Finance and Dynamic Discounting can be useful to enhance supplier relationships and provide additional liquidity to suppliers as well as contribute to the company’s ESG and supply chain resiliency goals. Equally as corporates are faced with continued supply chain disruption, forcing them to switch from ‘just in time’ to ‘just in case’ planning, treasurers can utilize solutions such as Inventory Finance to alleviate the drain on cash, whilst ensuring inventory is off-balance sheet until such time that is required.

<table>
<thead>
<tr>
<th>Short Term Risks</th>
<th>Long Term Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inflation</strong></td>
<td><strong>ESG</strong></td>
</tr>
<tr>
<td>Need to preserve profit margins as input costs rise</td>
<td>Streamline operations and invest towards ESG Targets</td>
</tr>
<tr>
<td><strong>Interest rate rise</strong></td>
<td><strong>Recovery led Growth</strong></td>
</tr>
<tr>
<td>Focus on deleveraging as cost of capital rises</td>
<td>Plan, extend and finance Capital Expenditure to support growth plans</td>
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<tr>
<td><strong>Supply chain risks</strong></td>
<td><strong>New age business models</strong></td>
</tr>
<tr>
<td>Developing agile and resilient supply chains</td>
<td>Modify operations with evolving customer needs and preferences</td>
</tr>
</tbody>
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Summary of Findings

$523 BILLION
Estimated working capital that can be released across the S&P 1500 companies

Top industries showing improvement in CCC in 2021
(Number of days the CCC shortened by)
- Pharmaceuticals: 33 days
- Apparel and Accessories: 25 days
- Automotive: 17 days

Top industries showing deterioration in CCC in 2021
(Number of days the CCC lengthened by)
- Aerospace and Defense: 3 days
- Technology Software: 2 days
- Media: 2 days

11 Points
Decline in WC Index

82 days
Difference between CCC of leaders and laggards

6 Points
Decline in Cash Index

68% of companies in the S&P 1500 saw an improvement in CCC of which:
- 78% showed shortening of DSO
- 66% showed shortening of DIO

Overall, 8 days fall in CCC and 6 days improvement in DSO
**Top four industries with the highest decline in cash levels in 2021**

Airlines: 7%
Semiconductor: 5%
Chemicals: 5%
Apparel Retail: 3%

**Highly indebted industries that need special focus on managing their expansion plans and ESG performance**

Oil and Gas Upstream
Airlines
Oil and Gas Downstream
Materials
Quick Service Restaurants
Ecommerce
Entertainment
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