A Study on the Winner and Laggard Sectors Post COVID-19 Pandemic in India

By Dr. Shashank Raina & Dr. Dinesh Sharma

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Keywords: COVID-19, GDP, pandemic, reserve bank of india (RBI), economy.

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Keywords: COVID-19, GDP, pandemic, reserve bank of India (RBI), economy.

I. Introduction

Before the outbreak of COVID-19, Indian economy was in a negative state and the pandemic has created an unmatched shock to the growth rate of the economy. Current pandemic COVID-19 is similar to the other crises like the Great Depression, 2008 crisis, etc. Economic impact of the crises has been immense and has led to the fall in the growth rate of the economy. According to World Bank, Indian economy had numerous pre risks, hampering the economic outlook and the current crises has caused demonstrating impact on economy’s growth rate with lowest figures since India’s economic liberalization in the 1990s.

On May 26th, 2020, CRISIL declared the current crises to be worst since India’s independence along with a research by India’s leading bank State Bank of India estimated a decline of over 40% in the economic growth in Q1’203. However, it stated that the contraction will be unequal and dependent upon the various factors including state and sector.

On September 01st 2020, Ministry of Statistics of India announced the GDP figures for Q1 (April to June) FY’21, stating a contraction of 24% in comparison to the figures same period previous year.

Economic activity reduced from 82.9 in March to 44.7 in April 2020 as per Nomura India Business Resumption Index. However, economic activity went back to pre-COVID level in September 2020. Unemployment rate increased from 6.7% in March 2020 to 26% in April 2020 and then came back down to pre-COVID levels by June 2020. More than 140 million people have lost their employment due to COVID while a lot of people have experienced salary cuts. Also, more than 45% of households across India has reported fall in their income as compared to the previous year.

Various other brokers have reduced their GDP growth estimations for India. Nomura has downgraded its projection for economic growth to 12.6% from 13.5%. JP Morgan has reduced its estimates for GDP from 11% from 13.5% and UBS has downgraded its projection to 10%

Indian economy has lost more than ₹32,000 crore (~$4.5 billion) per day during the initial 21 days of lockdown due to COVID-19 outbreak. Also, more than 50% businesses got affected due to lock down with a pressure on supply chain network. Below is the impact on different stakeholders in the economy:

- Impact on Financial Market: Financial/ Stock market has experienced volatility with significant wealth erosion. All the key indices including BSE and NSE have seen downward pattern with stock market crashing on March 12th, 2020. Major indices fell around 10% in a single day. BSE Sensex fell by 2919 points and NSE Nifty fell by 868 points. Further, Indian stock markets fell to a new low level on March 19, 2020, with BSE Sensex fell by 2919 points and NSE Nifty fell by 868 points. Below is the relationship between daily COVID cases and Nifty 50 Index performance.

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Impact on Supply Chain: Supply chain got impacted due to shutdown of factories in China and impacted Indian manufacturing industry due to shortage of raw material and final products. Major sectors which got impacted due to supply chain disruption involves electronics, chemicals, automobiles, and pharmaceuticals, among others. Also, Indian exports got impacted due to the slowdown in manufacturing activity in China and other countries including Asia, Europe and United States.

Impact on International Trade: COVID-19 has negatively impacted exports of various commodities including seafood, petrochemicals, gems and jewelry, among others. Fishing sector has experienced a loss of around Rs.1,300 crores due to reduction in exports. States including Jaipur has incurred a loss of approx. Rs. 10,000 crores post cancelling key trade events. India has exported 34% of its petrochemicals to China and have to reduce prices in the line of reduction in demand recently.

Impact on corporates: Leading companies existing in India including Larsen & Toubro, UltraTech Cement, Bharat Forge, Aditya Birla Group, BHEL, Grasim Industries, and Tata Motors has suspended or reduced operations temporarily. Young startups have also been impacted as funding has reduced due to lack of liquidity. Also, FMCG companies have curtailed operations and started focusing on essential commodities.

a) Government’s response to pandemic
   • Sectoral reforms
     o Mar 21st, 2020: Union cabinet provided incentives worth ₹40,995 crore for incentivizing electronic manufacturing
     o Mar 24th, 2020: Prime Minister announced a new package of approx. ₹15,000 crore for promoting development in the healthcare sector
     o Jun 02nd2020: Government of India has announced mobile manufacturing incentives of Rs.50,000 crores to promote manufacturing of mobiles through a production-linked incentive schemes and to increase locally made manufacturing in India
   • Special schemes
     o Atmanirbhar Bharat Abhiyan: Prime Minister of India announced an economic package of ₹20 lakh crore on May 12th, 2020. The package includes announcements by RBI previously on March 26th, 2020, and accounted for ₹8 lakh crore supporting liquidity.
     o Also, on Mar 25th, 2020, Modi government announced food security scheme providing a support of 800 million people across country4
     o On May 20th, 2020, Indian government cleared proposals of economic packages, including collateral free credit for MSMEs and free food grain package
   • Policy changes
     o On Apr 18th, 2020, India made few amendments to the foreign direct investment (FDI) policy to tackle with "opportunistic takeovers/acquisitions" of Indian corporates due to current pandemic.
     o On May 22nd, 2020, Reserve Bank of India announced extension of moratorium on loans and reduction in the repo and reverse repo rates among other things.
     o On Jun 20th, 2020, Government of India launched Garib Kalyan Rojgar Abhiyan to deal with the impact of COVID-19 on migrant workers in India. The fund is aimed at supporting rural public schemes with funding of ₹500 bn covering 6 states across 116 cities.
b) Impact of COVID-19 on different sectors

i. Energy

Metro cities are the biggest consumer of the energy. Night lights are connected with economic activity. Night life radiance has decreased by 37.2% in New Delhi as compared to Mar 31st, 2019. It was one of the biggest falls in any metro in India caused due to COVID-19. Also, other cities including Bangalore has registered a reduction of 32% and Mumbai registering a reduction of 29% in its energy consumption. At an aggregate level, India’s fuel demand fell by 46% as compared to in April 2019. Consumption of fossil fuels was also at the lowest point since 2007. On the other hand, LPG gas consumption has increased by ~12% in the same period. An International Energy Agency had submitted a report stating India’s annual fuel consumption to decline by 5.6% in 2020. Also, diesel demand will decrease by ~6%. In the month of June India’s demand for fuel was at 80–85% of pre-lockdown levels.

ii. Manufacturing

Indian corporates including Larsen and Toubro, Bharat Forge, Grasim Industries, and UltraTech Cement, along with Aditya Birla Group, Tata Motors and Thermax have reduced operations in various manufacturing facilities and factories across the country. Smart phone manufacturers for iPhone (Foxconn and Wistron Corp,) have also reduced majority of operations. Nearly all the automobile companies have halted their production with companies like Hindustan Unilever, ITC and Dabur India have also shut down manufacturing facilities except for factories producing essentials.

iii. E-commerce

Amazon India declared that it would hold sale of non-essential items in India to focus on essential needs. On Mar 25th, 2020, Flipkart suspended most of services offered on its e-commerce platform temporarily and decided to sell and distribute essential products. Big Basket and Grofers also rapidly increased focus on restricted services and have faced disruptions due to the lockdown.

c) Shapes of recovery post pandemic

There are various shapes of recovery. Depending upon the reforms and response of each sector it will have distinct shapes of recovery. Economic recovery has 4 distinct shapes primarily which is L, U, W, and V-shaped. Below are the few shapes of recovery:

i. L-shape

It is known as a sharp decline in the economy, followed by a very slow recovery. It is often marked as a high unemployment, taking large period to cover up and come back to previous levels.

ii. U-shape

It is also called as “Nike Swoosh” recovery, it is a situation where economy stagnates for some period which can be ranged up to few years. Post a decline, the economy experiences a healthy rise taking it back to the previous peak.

iii. W-shape

This is also called as “double-dip recession “. This condition allows a healthy chance of recovery, fail come back into a sharp decline and finally allowing the economy to enter full recovery period of up to next 2 years.
iv. V-shape

It is the best-case scenario which experiences a sharp decline in the economy followed by the quick and immediate recovery back to the pre-recession level in less than a year, boosted by strong economic measures and increased consumer spending.

Another important and possible scenario is the Z-shape, which is caused due to pent-up demand or revenge buying. It is rare scenario and is considered more as an optimistic than V-shaped recovery.

II. Objective of Study

- To understand the length and depth of crises by sector in India
- To identify the correlation between the COVID-19 versus performance of different sectors
- To understand the shape of recovery and future growth scenarios post pandemic for different sectors
- To track the responses of winner and laggard sectors towards pandemic

III. Methodology

Stock market works on the principal of absolute knowledge to everyone among the investors. It is believed that prices of any stock will be corrected based on the factors of demand and supply. The below study focusses on understanding how different sectors have reacted to COVID pandemic.

**Ho:** There is no difference between the impact of COVID-19 on different sectors or all sectors have responded equally to the COVID pandemic.

a) Responses by key sector to COVID-19

<table>
<thead>
<tr>
<th>Sector</th>
<th>What best performers did?</th>
<th>What worst performers did?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer</td>
<td>• Shift to omni-channel retail</td>
<td>• Over-dependence on single sales channel</td>
</tr>
<tr>
<td></td>
<td>• Partnered with digital supply chains</td>
<td>• Lack of product diversity</td>
</tr>
<tr>
<td></td>
<td>• Reduced rentals and improved space utilization</td>
<td></td>
</tr>
<tr>
<td>Automotive</td>
<td>• Investment in autonomous/Electronic vehicle</td>
<td>• Failure to control infection spread within factories</td>
</tr>
<tr>
<td></td>
<td>• Strict cost discipline of contain operating costs and deferring capex plans</td>
<td>• Launched new products</td>
</tr>
<tr>
<td>Banking &amp; Financial services</td>
<td>• Invested in cyber security, AI, cloud, block chain solutions and focus on contact less payments</td>
<td>• Inability to diversify into more customer friendly products like mobile wallets, digital cards</td>
</tr>
</tbody>
</table>
### Healthcare
- Adoption of data analytics, rapid clinical trials
- Remote patient monitoring
- Slower shifting to alternative manufacturing options including face masks, sanitizers

### Industrials
- Strict cost discipline to contain operating costs and deferring capex plans
- Restructured activities including lay-offs and furloughs
- Failure to control infection spread within factories
- Launched new products

### Media & Telecommunications
- Media companies started reusing archived contents
- Upgrading business model
- Declared cash dividend and share repurchase

### Metals and Mining
- Invested in regulatory environmental expenses, operational efficiencies, infrastructure improvement
- Regulated businesses faced strong headwinds as they could not benefit from government relaxations
- Reduced capital expenditure

### Technology
- Outsourcing manufacturing to low-cost geographies/ contract manufacturers
- Distributing cash dividend and share repurchase

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**b) Length and depth of the crises by sector**

Different sectors have varied responses towards COVID depending upon the demand, sector responses and nature of the sectors. Length of the crises is defined as period taken in months by a sector to recover from the crises. While depth of the crises is the minimum point reached by any sector due to crises.

Below is the analysis on Nifty 50 companies to understand the depth of crises and duration took by each sector to recover and come back to the initial level. Sector’s responses varied and proved that depth and length off crises is much dependent on the sector specific conditions.
Banking & Financial Services (-43.2%), Infrastructure (-39.0%), Industrials (-34.7%), Automotive (-32.6%) and Metals and Mining (-31.3%) have been the most impacted sectors, while Healthcare (-8.9%), Media and Telecommunications (-23.3%), Consumer (-25.0%) and Technology (-25.4%) are the least impacted sectors from COVID.

c) Shape of recovery by sector

Shape of recovery is a terminology used to describe type of recession and subsequent recoveries. It is defined by the period in which the economy comes back to its pre-recession levels. Below are the responses by each sector towards pandemic. Different sectors responded differently to the pandemic, while few shown quick V-shaped recovery, others had prolonged U-shaped recovery.

In the below analysis, stock prices of Nifty 50 companies have been considered for the analysis to understand the lowest price drop by each sector and time taken to reach back to pre-covid levels. While recovery is considered as the sustained come back to pre-covid prices.

Sectors including Consumer, Healthcare and Technology have experienced quick V-shaped recovery. While Automotive, Banking and Financial Services and Industrials sector have experienced longer U-shaped recovery. Major fluctuations were seen in the sectors including Infrastructure, Media & Telecommunications and Energy and Power with W-shaped recovery towards pandemic. Shape of recovery is a representative of the demand pattern of the sector, reforms introduced by the corporates in the sector, demand elasticity among others.
V-shaped recovery

Consumer, Healthcare and Technology sector has experienced sharp decline followed by the rapid recovery primarily impacted by:
- Lockouts and restricted movements of goods and people
- Factory and store closures
- Avoidance of elective surgeries and hospital visits
- Shift of life science sector to vaccine development
- Increased dependencies on technology and creating a connected environment

U-shaped recovery

Automotive, Banking & Financial Services and Industrials has experienced sharp decline followed by the pro-longed recovery primarily impacted by:
- Factory shutdowns, limited movement of goods
- Non-availability of raw materials
- Disrupted supply chain
- Uncertainty of COVID-19 impacted credit performance
- Remote working of certain functions of banks created operational difficulty
Infrastructure, Media & Telecommunications, Energy & Power has experienced steep decline followed by the W-shaped recovery and longest time to recover and are primarily impacted by:
- Government guidelines, high liquidity crunch
- Reduced travel due to government guidelines
- Decline in need of office spaces due to remote working
- Decrease in high ticket purchase due to reduced demand in real estate sector

d) Normal Distribution of deviations by sector
Statistical tests are applied to understand the relevance of the data, relationship between COVID cases and stock price movement by sector.

### Pearson Correlation

Pearson's correlation coefficient is the statistical test which helps to measure statistical relationship/association, between two continuous variables. It is a preferred method for measuring the association between variables as it is based on method of covariances.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Pearson correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking &amp; Financial Services</td>
<td>-0.38758</td>
</tr>
<tr>
<td>Metals and Minings</td>
<td>-0.26333</td>
</tr>
<tr>
<td>Industrials</td>
<td>-0.22472</td>
</tr>
<tr>
<td>Automotive</td>
<td>-0.17230</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>-0.13794</td>
</tr>
<tr>
<td>Energy &amp; Power</td>
<td>-0.09173</td>
</tr>
<tr>
<td>Technology</td>
<td>0.19150</td>
</tr>
<tr>
<td>Media &amp; Telecommunications</td>
<td>0.38100</td>
</tr>
<tr>
<td>Consumer</td>
<td>0.45511</td>
</tr>
<tr>
<td>Healthcare</td>
<td>0.90033</td>
</tr>
</tbody>
</table>


Figure 5.2
The values for Pearson Correlation ranges between -1.0 and 1.0. A correlation of -1.0 reflects perfect negative correlation, while a correlation of 1.0 shows a perfect positive correlation. Zero correlation means no linear relationship between movement of 2 variables.

Above analysis shows that, sectors with higher depth and length of crises have higher negative correlation, while sectors including Consumer, Technology and Healthcare have positive correlation and states no impact due to COVID pandemic.

### ii. P-value test

P-value is stated as the probability that null hypothesis is true. In case under examination, it shows probability that the correlation between x and y in the sample data happened due to chance.

A p-value of 0.05 means that there is only 5% chance that results from your sample occurred due to chance. A p-value of 0.01 depicts only 1% chance of error. So lower p-values are good.

\[ H_0 \]: There is a no relation between COVID cases and performance of stock prices of Nifty 50 companies.

### Sector P-Value

<table>
<thead>
<tr>
<th>Sector</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>0.01261</td>
</tr>
<tr>
<td>Banking &amp; Financial Services</td>
<td>0.00000</td>
</tr>
<tr>
<td>Consumer</td>
<td>0.00000</td>
</tr>
<tr>
<td>Energy &amp; Power</td>
<td>0.18650</td>
</tr>
<tr>
<td>Healthcare</td>
<td>0.00000</td>
</tr>
<tr>
<td>Industrials</td>
<td>0.00107</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>0.04641</td>
</tr>
<tr>
<td>Media &amp; Telecommunications</td>
<td>0.00000</td>
</tr>
<tr>
<td>Metals and Minings</td>
<td>0.00012</td>
</tr>
<tr>
<td>Technology</td>
<td>0.00548</td>
</tr>
</tbody>
</table>

Source: https://www.nseindia.com/get-quotes/equity?Symbol=SBIN15

Figure 5.3

As the P-value for all the sectors is less than 1% smaller than the significance level (\(\alpha = 0.01\)), we REJECT the null hypothesis in favor of the alternative. Hence, we can conclude by stating that the sample size is relevant and there is a correlation in the sample.

### iii. Normal Distribution curve

Further, normal distribution curve has been plotted for each sector based on Nifty 50 companies to understand how close these sectors stayed with the base price (rebased to 100 for pre-covid level). The analysis is aimed to understand the volatility of each sector and variability from the base price 100 (stock prices are rebased to 100 for pre-covid level).

### iv. Automotive

Automotive sector has experienced performance below the par value of 100 in 40% of the intervals, while it was up in the 30% of the intervals during 2020. Mean value of share price performance for shares in Automotive sector was 102 (at premium of 2 from pre-COVID levels).
v. **Banking & Financial Services**

Banking & Financial Services sector has experienced performance below the par value of 100 in 50% of the intervals, while it was up in the 10% of the intervals during 2020. Mean value of share price performance for shares in Banking & Financial Services sector was 80 (at discount of 20 from pre-COVID levels).

vi. **Consumer**

Consumer sector has experienced performance below the par value of 100 in 30% of the intervals, while it was up in the 30% of the intervals during 2020. Mean value of share price performance for shares in Consumer sector was 108 (at premium of 8 from pre-COVID levels).

vii. **Energy & Power**

Energy and Power sector has experienced performance below the par value of 100 in 30% of the intervals, while it was up in the 10% of the intervals during 2020. Mean value of share price performance for shares in Energy and Power sector was 96 (at discount of 4 from pre-COVID levels).

viii. **Healthcare**
Healthcare sector has experienced performance below the par value of 100 in 10% of the intervals, while it was up in the 80% of the intervals during 2020. Mean value of share price performance for shares in healthcare sector was 145 (at premium of 45 from pre-COVID levels).

Industrials sector has experienced performance below the par value of 100 in 40% of the intervals, while it was up in the 5% of the intervals during 2020. Mean value of share price performance for shares in Industrials sector was 91 (at discount of 9 from pre-COVID levels).

Infrastructure sector has experienced performance below the par value of 100 in 40% of the intervals, while it was up in the 20% of the intervals during 2020. Mean value of share price performance for shares in Infrastructure sector was 101 (at premium of 1 from pre-COVID levels).

Media & telecommunications sector has experienced performance below the par value of 100 in 25% of the intervals, while it was up in the 20% of the intervals during 2020. Mean value of share price performance for shares in Media & Telecommunications sector was 98 (at discount of 2 from pre-COVID levels).
xii. **Metals and Minings**

Metals and Mining sector has experienced performance below the par value of 100 in 35% of the intervals, while it was up in the 25% of the intervals during 2020. Mean value of share price performance for shares in Metals and Mining sector was 98 (at discount of 2 from pre-COVID levels).

xiii. **Technology**

Technology sector has experienced performance below the par value of 100 in 30% of the intervals, while it was up in the 60% of the intervals during 2020. Mean value of share price performance for shares in Technology sector was 114 (at premium of 14 from pre-COVID levels).

e) **Normal Distribution of deviations by sector**

i. **Automotive**

Key responses by Automotive sector supporting the future growth includes:

- Companies focused on better price realization to boost revenue
- Rationalized the product portfolio with a focus on essential, higher margin syndicated businesses
- Companies had to reimagine supply chains and develop new and local supplier relations, negotiate terms and prices and ensure supply availability
ii. Technology

Key responses by Technology sector supporting the future growth includes:

- Reduced marketing spends by deferring or suspending sponsorships, campaigns and customer events, reduced non-essential expenditure

iii. Metals

Key responses by Metals sector supporting the future growth includes:

- Budget cuts, Capex reduction, salary cuts and reducing overheads costs
- Companies suspended stock repurchase programs and dividends
iv. **Media & Telecommunications**

Key responses by Media & Telecommunications sector supporting the future growth includes:
- Companies borrowed spectrums to meet capacity demand in spike
- Deferred launch of new products
- Reduced marketing spends by deferring sponsorships, campaigns and customer events, reduced non-essential spending

v. **Banking & Financial Services:**

Key responses by Banking & Financial Services sector supporting the future growth includes:
- Investments in process automation and technology and improved cyber security
- Banks implemented safety protocol at branches, offered loan deferrals
vi. **Consumer**

Key responses by Consumer sector supporting the future growth includes:

- Companies focused on developing e-commerce network to each-out its consumers
- Invested in process automation and improving supply chain
- Also, companies took initiatives like overhead expenses reduction, headcount reduction and salary cuts

vii. **Energy & Power**

Key responses by Energy & Power sector supporting the future growth includes:

- Companies engaged in improving utilization of the product lines and plants
- Focused on budget cuts, headcount reduction and salary cuts
viii. Healthcare

Key responses by healthcare sector supporting the future growth includes:

- Companies engaged in improving utilization of the product lines and plants
- Focused on budget cuts, headcount reduction and salary cuts

ix. Infrastructure

Key responses by Infrastructure sector supporting the future growth includes:

- Issued furloughs to the employees, reduced base salary of top executives, freeze new hirings
- Focused on budget cuts, headcount reduction and salary cuts
x. **Industrials**

Key responses by Industrials sector supporting the future growth includes:

- Companies focused on better price realization to boost revenue
- Rationalize the product portfolio with a focus on essential, higher margin syndicated businesses
- Companies had to reimagine supply chains and develop new and local supplier relations, negotiate terms and prices and ensure supply availability

VI. **Conclusion**

Pandemic has caused impact in the economy across different segments. Winners and laggards have been defined based on their respective responses towards the pandemic. While few sectors have responded by cost cuts, investment in cost reduction technologies on the other hand laggards have not been able to keep the track on their cost structure and curtail capital expenditure.

Length and depth of crises by sector: Different sectors have reacted differently to the pandemic. Banking & Financial Services (-43.2%), Infrastructure (-39.0%), Industrials (-34.7%), Automotive (-32.6%) and Metals and Mining (-31.3%) have been the most impacted sectors, while Healthcare (-8.9%), Media and Telecommunications (-23.3%), Consumer (-25.0%) and Technology (-25.4%) are the least impacted sectors from COVID.

Correlation between the COVID-19 versus performance of different sectors: Correlation between the sectors vary with the nature of the sector, initiatives taken by each sector and responses by each company in the sector. While sectors like Banking and Financial services, metals and Mining, Industrials and Automotive have high degree of negative correlation with the COVID-19 pandemic. Similarly, sector like healthcare, consumer, technology are least related with disruption caused by the pandemic.

Shape of recovery and future growth scenarios post pandemic for different sectors: Shape and depth of the crises also varies with the sector and is not uniform throughout the economy with recovery rate varying from 2-3 months in incase of technology to 7-8 months in case of Energy & Power and Media & Telecommunications.

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