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COVID-19 and financial development in India: A qualitative analysis based on sixteen fiscal indices

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Abstract

Each sector of the global economy, as well as several economic and financial indicators, is severely impacted by COVID-19. However, the purpose of the study is to look at how COVID-19 has affected India's financial progress in the short run, based on sixteen key financial metrics. Since the Covid pandemic is a recent occurrence, thus an econometric analysis cannot be conducted by using the data available for such a short period of time. As a result, The study follows a descriptive research design and is purely qualitative in nature, with annual growth rates, CAGR (compound annual growth rate), and line diagrams employed to substantiate the objectives. However, to the best of my knowledge, this is the first study that focuses on the immediate implications of the COVID-19 pandemic on India's financial development as a whole. And, according to the study, the epidemic has reportedly had a short-term negative effect on India's overall financial prosperity.

Keywords: COVID-19, Financial Development, Fiscal Indices, Immediate Effects, and India

Introduction

“It's no longer about strategic development. It's about financial development.”

Michael Diekmann

The COVID-19 pandemic outbreak has produced enormous worldwide disruptions that have influenced every aspect of human life and driven shockwaves across the world economy, causing a chain reaction of disruptions throughout industries and financial markets. Apart from its immediate effects on social life and public health, the pandemic has exposed shortcomings of contemporary business & payment frameworks, sparked a wave of economic instability, and impacted financial institutions all across the world. In short, financial institutions & economies all across the world have been adversely affected by the global economic catastrophe brought on by the COVID-19 outbreak. And, with a large population and a booming economy, India has not been immune from this disruptive force as a whole.

COVID-19 has an impact on every sector of the global economy and on numerous economic variables. Instead of demonstrating the impacts of the COVID-19 pandemic on various economic variables and sectors, this paper will investigate the short-term impact of COVID-19 on Indian financial development. Figuring out what is happening right now would help researchers worldwide to understand more about the problems that the Indian financial system is facing and to suggest strategies to deal with them. Because the effect of COVID-19 on the financial growth of India presents a unique set of issues that have forced an assessment of current frameworks and emphasised the necessity for novel solutions. India's reaction to the financial effects of the epidemic will have a big impact, since it is the second-most populated nation and is the fifth-largest economy in the world by GDP.

In order to critically assess the viability and condition of India's financial system and to create appropriate mitigation plans, it is essential to be aware of the short-term consequences of COVID-19 on India's financial development indicators. This study planned to present an exhaustive overview of the issues faced by the Indian economy and its financial system by thoroughly analysing the short-term consequences of COVID-19 on some important financial development indicators of India. COVID-19 has had a variety of short-term consequences on financial indicators in India, including economic growth, stock market, foreign investment,

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balance of payment and external trade. By evaluating the financial indicators, significant insights into India's financial system's weaknesses & prospects can be acquired. Policymakers, economists, and other stakeholders can use this knowledge to establish practical strategies to deal with the pandemic's current challenges, and promote an optimistic and rewarding future.

Literature Review

The financial system plays a vital role in the global economy (Varma *et al.*, 2021) [18]. Since the Indian financial sector is highly integrated and responds to global events, it is important to explore the impact of COVID-19 on India's financial development. Because the COVID-19 pandemic is a major negative supply and demand shock that has severely hampered India's short-term growth (Goyal, 2020) [7].

For the increasing cases of coronavirus disease, in June 2020, India became the world's third-worst affected country (Goel *et al.*, 2020) [6]. Thus, simply because of the coronavirus, economies all across the world suffered badly, and India was not an exception. For instance, on March 23, 2020, India's stock market indexes, Sensex and Nifty dropped by 3934.72 points (13.15%) and 1135.20 points (12.98%) respectively (Singhal, 2021) [15]. Bora & Basistha (2021) [4] revealed that during the pandemic, there was volatility in the Indian stock market, and too discovered that the return on the indices was higher before the COVID-19 period than it was during the pandemic. Also, according to Bhattacharya (2021) [3], India's financial sector experienced an unexpected downturn and high volatility during the pandemic. In addition, Varma *et al.* (2021) [18] concluded that COVID-19 enhanced stock market risk and temporarily had a negative influence on the Indian financial market. Meanwhile, people's perceptions of investing in mutual funds and the stock market have been negatively impacted by the introduction of the pandemic, and as a result, people are saving more money now (Rose Nirmala, 2022) [12]. Additionally, the impact of COVID-19 on both net foreign direct investment (Mohapatra & Senapati, 2021) [10] and

foreign direct investment inflow (Koçak, S. & Barış-Tüzemen, 2022) [9] was negative.

However, COVID-19 has changed the buying pattern of consumers (Sarangi, 2023) [14], making the online shopping more active than before (Aggarwal & Kapoor, 2020 and Sarangi, 2022) [1, 13]. This is because, as a result of COVID-19, the e-commerce ecosystem has expanded internationally (Ausekar *et al.*, 2020) [2], and the number of B2C (Business-to-consumer) industries operating in India has increased dramatically (Susmitha *et al.*, 2020) [17]. Even the adoption of digital payments or electronic payments in India has increased because of the COVID-19 outbreak (Das S., 2021) [5]. This finding is supported by Singhal & Gupta (2021) [16], who showed that during the epidemic, Indian cities and villages saw a huge increase in the use of digital payments made through several Fintech applications. Since there is a positive and statistically significant relationship exists between Fintech & financial inclusion (Gupta & Verma, 2022) [8], digital payments can increase financial inclusion and thus, financial development in India. And, if the government requires credit to finance its capital or revenue expenditure, it should obtain it from the open market (Mukhopadhyay, 2021) [11].

From the above literature review, it is clear that no previous studies attempted to examine the short-term impacts of COVID-19 on India's financial growth at a broad level. Some variables namely; foreign exchange earnings from tourism, gross capital formation, money-to-GDP ratio, digital payment index, financial inclusion index, gross domestic saving rate and gross domestic investment rate, were not even included in any previous studies, to the best of my knowledge.

Data source & variables of the study

Since the objective of the study was to explore the short-term impacts of COVID-19 on India's overall financial development, different variables relating to different sectors were considered, and are illustrated in Table – 1.

Table 1: Data Source & Variables

Variables	Description	Data Source	Time Duration and Units
Money to GDP Ratio (M ₃ /GDP)	It is the ratio of board money (M ₃) to real GDP. The higher the ratio, the greater the financial development, as it indicates the extent of monetisation and size of exchange in the country.	M ₃ : Annual Report of Reserve Bank of India (RBI) Real GDP: Indian Economic Survey	2017 to 2022 In INR Crore
Nifty	It is the benchmark index comprised of the top 50 stocks listed on the National Stock Exchange (NSE) India. The higher the Nifty, the greater will be the financial progress.	RBI Hand Book of Statistics	2017 to 2022 Averages based on daily closing index
Sensex	It is the benchmark index comprised of the top 30 stocks listed on the Bombay Stock Exchange (BSE) India. The higher the Sensex, the greater will be the financial growth.	RBI Hand Book of Statistics	2017 to 2022 Averages based on daily closing index
Gross Capital Formation (GCF)	It is the sum of net changes in inventories and gross additions to fixed assets. High GCF drives quick financial growth.	World Bank Databank	2017 to 2022 In INR Crore
Capital Expenditure	It is the sum of money used to acquire or upgrade tangible or fixed assets. High Capex leads to rapid financial progress.	RBI Annual Report	2017-18 to 2022-23 In INR Thousand Crore
Gross Fiscal Deficit (GFD)	It is computed by deducting the total revenue from all government expenses incurred in a fiscal year including loans.	RBI Annual Report	2017-18 to 2022-23 In INR Thousand Crore
FEE from Tourism (FEET)	It refers to the sum of foreign exchange received from the tourism sector. The higher the earnings, the greater will be the financial development.	Indian Tourism Statistics Reports	2017 to 2022 In INR Crore
Foreign Exchange Earnings (FEE)	The larger the ratio, the more rapid will be the financial growth, as it implies the monetary advantage gained from exporting goods and services to other countries or from trading currencies on the international market.	Indian Economic Survey	2017-18 to 2022-23 In INR Crore
Net Inward Foreign Direct Investment (IFDI)	Repatriation or disinvestments are deducted from gross inflows to calculate it. High net FDI inflows indicate larger financial development of a nation.	RBI Annual Report	2017-18 to 2022-23 In US \$ Billion
Net FDI	It is found by subtracting net FDI inflow from net FDI outflow.	RBI Annual Report	2017-18 to 2022-23

	Financial growth is typically high when net FDI is high.		In US \$ Billion
Total Digital Transactions (TDT) Volume	It is the total number of transactions made via digital wallets and cards. A high number indicates the expansion of inclusive banking & e-banking services, which favours financial development.	RBI Annual Report	2017-18 to 2022-23 In Lakh
Value of Total Digital Transactions (TDT)	It is the total amount of transactions made via digital wallets and cards. A high number denotes inclusive banking and e-banking service expansion, which often results in rapid financial growth.	RBI Annual Report	2017-18 to 2022-23 In INR Crore
Digital Payment Index (DPI)	To show the growth of digital payments across the nation, the RBI introduced the Digital Payments Index in March 2018 with a base index of 100.	RBI Annual Report	March 2018 to March 2022
Financial Inclusion Index (FII)	Financial inclusion refers to the accessibility of financial services to all people equally and at reasonable prices. It is essential for a country's financial and inclusive development. The FII was introduced by RBI in March 2017.	RBI Annual Report	March 2017 to March 2022
Gross Domestic Saving Rate (GDSR)	It is expressed in terms of the percentage of Gross National Disposable Income (GNDI) at current prices. The higher the rate, the larger will be the investment, and thus, rapid financial growth occurs.	RBI Annual Report	2017-18 to 2021-22 In %
Gross Domestic Investment Rate (GDIR)	It is expressed in terms of the percentage of Gross Domestic Product (GDP) at current prices. The greater the rate, the larger will be the financial development.	RBI Annual Report	2017-18 to 2021-22 In %

(Source: Author's Own)

Methodology

To ascertain whether or not the growth rates of the variables connected to Indian financial growth were relatively larger from 2019–20 than the previous years, the study used a descriptive research design and was wholly supported by secondary data. Since data are available for various variables throughout a variety of time frames, including calendar years and fiscal years, the data were simplified to cover the years 2017 through 2022 because the researcher has no control over the data's availability. Numerous statistical techniques, such as percentage analysis, CAGR (*Compound Annual Growth Rate*), yearly growth rates, and multiple line diagrams were used to support the objective. The entire data analysis was carried out using MS Excel. And, the CAGR was calculated through the following formula.

$$\text{CAGR} = \left(\frac{V_{\text{final}}}{V_{\text{begin}}} \right)^{1/t} - 1 \quad (1)$$

Where, V_{final} = Final Value, V_{begin} = Beginning Value, and t = Time in Years.

Data analysis and interpretation

This section looks at data analysis using various statistical tools to draw major conclusions. Since COVID-19 has substantially impacted India's financial progress, the following standards were used to assess its short-term or immediate effects.

The performance of multiple financial metrics during the pre- and post-Covid eras is outlined in Tables 2 and 3. While Table – 2 displays the actual values of several indices in the pre- and post-Covid eras, Table – 3 illustrates the annual growth rates and CAGR (a measure of average annual growth rate over a specific time period) for those metrics. By analysing the two tables simultaneously, we may gain a more comprehensive knowledge of the indicators' performance in the pre- and post-Covid regimes. That implies the trends, growth rates, and implications of these financial variables on the Indian economy can be better understood by analysing the data altogether. Both tables, however, featured data for the three years prior to the pandemic (2017-2019) and the three years since the global epidemic began (2020-2022).

Table 2: Performance of the Indicators in Pre- and Post-Covid Era

Indicators	Pre-Covid Era			Post-Covid Era		
	2017	2018	2019	2020	2021	2022
M ₃ /GDP	1.223	1.328	1.441	1.711	1.721	1.735
Nifty	10030.13	10859.51	11487.96	12016.89	16662.74	17335.92
Sensex	32396.83	35971.79	38756.70	40826.39	55774.58	58307.52
GCF	2200167 (31.4)	2382992 (32.3)	2539962 (29.8)	2330154 (31.1)	2679128 (32.7)	3050205 (34.0)
Capex	2098 (1.4)	2335 (1.5)	2588 (1.5)	3319 (1.6)	3623 (2.3)	3747 (2.3 ^e)
GFD	997 (3.5)	1103 (3.4)	1449 (4.6)	2600 (9.2)	2441 (6.8)	2421 (6.5 ^e)
FEE	344814	389551	404089	323834	393660 (P)	442000 (1st AE)
FEET	177874	194881	211661	50136	65070	134543
Net IFDI	39.4	43.3	56	54.9	56.2	41.6
Net FDI	30.3	30.7	43	44	38.6	28
TDT Vol.	145893	232602	341240	437068	719768	1139476
TDT Value	1370.84	1637.13	1620.89	1414.58	1744.14	2086.87
DPI	-	100	153.47	207.84	270.59	349.30
FII	43.4	46	49.9	53.1	53.9	56.4

e = Budget Estimates

P = Provisional Data

1st AE = First Advance Estimates

Note: Figures in parentheses are per cent of GDP to Centre

(Source: Author's Own)

Table 3: Pre- and Post-Covid Era Indicators Growth Rates and CAGR (in %)

Indicators	Pre-Covid Era			CAGR (2017 to 19)	Post-Covid Era			CAGR (2020 to 22)
	2017	2018	2019		2020	2021	2022	
M ₃ /GDP	-	8.58	8.50	5.61	18.73	0.58	0.81	0.46
Nifty	-	8.26	5.78	4.62	4.40	38.66	4.04	12.99
Sensex	-	11.03	7.74	6.15	5.34	36.61	4.54	12.61
GCF	-	8.88	6.52	4.90	-8.15	15.42	13.77	9.39
Capex	-	11.29	10.83	7.24	22.02	8.39	3.30	4.12
GFD	-	10.63	31.36	13.22	79.43	-6.11	-0.81	-2.34
FEE	-	13.09	4.13	5.42	-19.78	21.06	11.94	10.92
FEET	-	9.6	8.6	5.96	-76.3	29.8	106.7	38.96
Net IFDI	-	9.89	29.33	12.43	-1.96	2.36	-25.97	-8.83
Net FDI	-	1.32	40.06	12.37	2.32	-12.27	-27.46	-13.98
TDT Vol.	-	59.43	46.7	32.74	28.08	64.68	58.31	37.63
TDT Value	-	19.42	-0.99	5.74	-12.77	23.29	19.65	13.83
DPI	-	-	53.47	23.88	35.42	30.19	29.08	18.89
FII	-	5.99	8.47	4.76	6.41	1.50	4.63	2.03

(Source: Author's Compilation)

Prior to COVID-19, the money-to-GDP ratio increased steadily and during the pandemic i.e., in 2020, it experienced a significant hike with an annual growth rate of 18.73%. It kept rising under the post-Covid era, signalling India's financial progress. However, as can be observed from the growth rates and CAGR, the ratio's growth rate after COVID-19 is not as significant as it was during the post-Covid period. Because the CAGR for the money-to-GDP ratio was 0.46% in the post-Covid era, which was lower than the CAGR of 5.61% in the pre-Covid era.

The Nifty and Sensex indexes experienced a huge boom in the post-Covid era. Because of the COVID-19 epidemic, both indices declined significantly in 2019 and 2020, but recovered significantly in 2021 and 2022. The Nifty and Sensex recorded CAGRs of 12.99% and 12.61% in the post-Covid era, respectively, showing a robust recovery from the lower growth rates in 2019 and 2020. Meanwhile, the GCF figures exhibit an upward trend in both the pre- and post-Covid eras, signifying an increase in capital asset investment. However, the growth rate fluctuated significantly, with a drop of 8.15% in 2020 during the pandemic but it has been rising in subsequent years, as the post-Covid CAGR for GCF was 9.39%, higher than the pre-Covid CAGR of 4.9%.

Capex data revealed a progressive growth in both eras, showing an increase in investment in physical assets. The growth rate was relatively consistent but witnessed a noticeable increase of 22.02% in 2020, meanwhile, GFD also increased in the pre-Covid era, with a significant jump of 79.43% in 2020 due to fiscal stimulus measures taken for the epidemic. Despite the GFD amount declining in 2021 and 2022, it still stayed above pre-Covid levels. The average annual growth rates of Capex and GFD are, however, less than they were before the Covid outbreak, indicating a lengthy recovery phase.

FEE and FEE from tourism both experienced a steep decline of -19.78% and -76.3% in 2020 respectively, during the pandemic. However, they recovered considerably in 2021 and 2022, by surpassing the pre-Covid levels. It is also obvious from the CAGRs, as the CAGRs of FEE and FEE from tourism were 10.92% and 38.96% respectively in the post-Covid period, which is comparatively greater than the pre-Covid period's CAGRs of 5.42% and 5.96%.

In the post-Covid era, both Net FDI inflows and Net FDI indexes displayed inverse movements, with a substantial decrease of 25.97% and 27.46% in 2022, respectively,

obviously due to the pandemic. In the post-Covid period, their CAGRs are even negative, showing no recovery. Similarly, both the volume and value of TDT metrics showed a significant increase in both eras, reflecting an increase in digital transactions in India. They noticed a remarkable hike in the years 2021 and 2022. The CAGRs of both the indicators in the post-Covid period are relatively larger than they were in the pre-COVID-19 period. In addition to this, the DPI showed a significant growth in both eras, pointing to an increase in digital payments. Its growth rate was positive and relatively stable. Finally, as per Tables 2 and 3, the FII indicated a little increase in both periods, indicating consistent financial inclusion in India. Because in both the periods, it had a relatively modest CAGR, which reported a stable growth in financial inclusion.

Overall, the tables suggest that in the post-Covid era, both the economy and the financial markets had slower development. But the Indian economy made a significant recovery in a number of areas. Some indicators, including the Nifty, Sensex, GCF, FEE, FEE from tourism, volume and value of TDT, and DPI, demonstrated signs of recovery. However, the reduction in FDI, Capex and the difficulties in controlling fiscal deficits, seem to be causes for stress.

Figure – 1 illustrates the values of two indicators; GSDR and GDIR, for the years 2017 to 2021, expressed as percentages of the GNDI at current prices and GDP at current prices, respectively. The percentage of gross savings to gross national disposable income is represented by the GSDR. The GSDR was 29.9% of GNDI in 2017, which means that about 29.9% of the nation's disposable income was saved. The GSDR progressively raised over the years, peaking in 2019 at 30.9% before falling a little in 2020 to 28.4%. In 2021, the GSDR rebounded to 30%, indicating that approximately 30% of gross national disposable income was saved.

Likewise, the percentage of gross domestic investment to GDP is known as GDIR. The GDIR was 30.9% of GDP in 2017, which means that roughly 30.9% of the nation's GDP was devoted to investment. In 2018, the GDIR climbed to 32.7%, while in 2019, it declined to 32.2%. The GDIR suffered a more noticeable drop in 2020, falling to 27.9% of GDP, which suggests a decline in investment as a percentage of the entire economy. In 2021, the GDIR increased to 31.4%, reflecting a small improvement in investment as a percentage of GDP.

The COVID-19 pandemic's effects on income generation and investment activities may be responsible for the reduction in both GSDR and GDIR in 2020. Economic activity suffered significantly as a result of the epidemic,

which in turn reduced savings and investment. Nevertheless, investments and savings subsequently improved in the year 2021, and in the upcoming years, it is anticipated that both the GSDR and GDIR will grow further.



(Source: Author's Compilation)

Fig 1: GSDR and GDIR of India

Conclusion

The Indian economy witnessed a significant slowdown in the post-Covid period. Because several indices namely, Nifty, Sensex, gross capital formation, gross domestic saving rate, gross domestic investment rate, foreign exchange earnings, foreign exchange earnings from tourism, net foreign direct investment inflow and net foreign direct investment, to name a few, had all exhibited a substantial decline in the year 2020 i.e., the very beginning year of COVID-19 in India. Along with these, the average annual growth rates of capital expenditure, the Money-to-GDP ratio, net FDI inflow, and net FDI are lower in the post-Covid period than they were in the pre-Covid period. However, the downturn in the growth of the Indian economy was particularly severe in the first two years of the post-Covid era, and thankfully there has been some recovery in the recent few months. This is due to a number of factors, including the relaxing of lockdown restrictions, the rise in vaccination rates, the reopening of markets, growth in digital commerce and the government's fiscal stimulus measures. There were some indicators that showed positive growth as well as speedy recovery in the post-Covid era, as evidenced by the compound annual growth rates. These include the growth of Nifty, Sensex, gross capital formation, foreign exchange earnings, and foreign exchange earnings from tourism. There is also a little improvement in the gross domestic saving rate and gross domestic investment rate in India after the pandemic. Additionally, the indicators including the volume and value of total digital transactions, the digital payment index, and the financial inclusion index revealed strong growth in both periods. As evidenced by the growth rates and annual average growth rates of these four variables, it can be stated that growth rates were positive and reasonably stable, indicating consistent growth in both the periods.

As a result, COVID-19 has had an overall adverse effect on India's financial development. Because despite the fact that the pandemic created certain opportunities for the financial sector, including a spike in e-commerce, digital payments and financial inclusion, it has caused a severe fall in economic activity and has increased business uncertainty in

India. And, since the majority of the indices are found to be adversely affected by the pandemic, we cannot conclude that the pandemic's overall short-term impact on the Indian economy is mixed or positive. However, the Indian financial sector must adjust to the new environment caused by the pandemic to remain strong, competitive and to promote sustainable financial development.

Policy suggestions

The future of the Indian economy is uncertain, but there are some reasons to be optimistic. Despite a slower pace of financial progress than before the pandemic, the Indian economy is nevertheless expanding. The positive growth of some metrics in the post-Covid period suggests that the Indian economy is recovering. However, there are still certain challenges that need to be addressed. For the time being, the administration should prioritise a few economic changes that could help to boost financial development in India. The development of e-commerce, digital transaction or electronic payments, digital and inclusive banking, tourism, and considerable capital spending should be prioritised by the government of India, because these sectors have the potential to strengthen the economy. As the foreign direct investment inflows and net foreign direct investment has been decreasing in India since 2020, the government must encourage both multinational and foreign companies to invest in India by lowering taxes, providing incentives like grants or subsidised loans, and supplying skilled labour. Since the Indian population is very young and growing, the government must improve the quality of education and healthcare in India to create a more skilled and healthier workforce, which is crucial for the long-term economic and financial growth, as well as can raise the number of foreign investments in India. Moreover, improved infrastructure and advanced technology can also lead to financial progress and can attract foreign investment. Therefore, the government should allocate a significant amount of its budget to the development of education, health, digitalisation, technology, and infrastructure including roads, railways, ports, airports, information technology etc. in India.

Indian economy is now at a turning point. If the government can solve the issues and capitalise on its advantages, there will be a speedy recovery and sustainable growth. To ensure that the economy recovers back and that everyone enjoys the advantages of growth, the government must take certain appropriate actions. The Indian economy will be in a good position to have sustainable growth in the years to come, if the government is successful in achieving this.

Limitations & future research directions

The study has certain research limitations, such as it only covers a 6-year span, which is a relatively short period of time, and thus, it is challenging to draw long-term conclusions from this analysis. The paper is constrained by the availability of monthly data, for which it is quite difficult to track the trends over time. The analysis is also subjective to some extent, as the choice of indicators is based on the judgment of the researcher. Thus, in the forthcoming years, a broad econometric study can be developed by adding some more financial indicators.

In spite of these limitations, the analysis offers some insightful information on the factors that influence India's financial and economic growth after the COVID-19 pandemic. The findings of the study can be used by the Indian researchers and policymakers to develop policies that will help to boost India's financial growth. In conclusion, the analysis provides some valuable insights into the short-term after-effects of COVID-19 on India's financial development.

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