Impact of COVID-19 Pandemic on Financial Performance of India's Non-Banking Financial Companies

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Abstract

The overwhelming importance of non-deposit taking systemically important non-banking financial companies among all non-banking financial companies (NBFCs) in the country, as well as its linkages with the banking industry and the capital market are main considerations for selecting them for the purpose of evaluating the impact of COVID-19 pandemic on their financial performance. The most appropriate measure that reflects the financial performance of different companies is the maturity profile of their assets and liabilities. However, unavailability of its data set uniformly across 32 selected NBFCs beyond 2018-19 has restricted its applicability for evaluating the impact of COVID-19 pandemic on the financial performance of different companies. Nevertheless, this data set is used to classify the selected NBFCs into three broad categories so that impact of COVID-19 pandemic could be evaluated on each category by using a proxy variable. Closing Stock prices of company's shares listed at BSE from July 2019 to July 2020 is used as a proxy variable to judge the financial performance of the company. The impact evaluation is done through dummy variable regression model. The results of the estimated model have clearly highlighted that the effect of COVID-19 pandemic has been extremely severe on a sizeable majority except for three NBFCs because of the operation of idiosyncratic factors like excessive gold loan or infusion of equity capital. High interconnectedness with overall financial system and "too big to fail" criterion require these NBFCs to be converted into commercial banks as has happened in case of Development Financial Institutions.

Key Words: COVID-19 Pandemic, Non-Banking Financial Companies, Cumulative Cash Inflows, Cumulative Cash Outflows, Stock Price Indices of Listed NBFCs at BSE, Negative Exogenous shock and Idiosyncratic Factors

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Introduction

Financial system plays a crucial role in economic development of a country. Globally, financial system includes mainly banks and shadow banks. The term 'Shadow Bank' was coined by economist Paul McCulley in 2007. Financial Stability Board (FSB) (2011) defined shadow banks as "credit intermediation involving entities and activities outside the regular banking system". In common parlance, shadow banks are generally referred to as non-banking financial institutions (NBFIs), but in strict

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financial jargon NBFIs in India do not fall within the ambit of the definition of shadow banks. This is because NBFIs are within the regulatory framework of Reserve Bank of India (RBI) under chapter III (B), which was inserted in 1963 of the RBI Act 1934.

NBFIs consist of four major entities- All India Financial Institutions (AIFIs), Non-Banking Financial Companies (NBFCs), Primary Dealers (PDs) and Housing Finance Companies (HFCs). Non-banking financial companies are defined in section 45 I (c) of RBI Act 1934, “as a company registered under the Companies Act 1956 and are engaged in the business of making loans, advances, acquisition of shares, stocks, bonds, debentures or securities issued by the government or local authority or other marketable securities, leasing, hire-purchase, insurance and chit business provided the principal business of such a company doesn’t constitute any of the following non-financial activities viz. agricultural operations, industrial activities, trading in goods, providing services, and purchase, construction or sale of immovable property.” Non-Banking Financial Companies are classified on the basis of following three parameters:

a. Asset-Liability Structure b. Systemic Importance c. Activities Undertaken

In terms of liabilities, Non-Banking Financial Companies are divided into deposit taking Non-Banking Financial Companies (NBFCs-D) and Non-Deposit taking Non-Banking Financial Companies (NBFCs-ND). Further, any Non-Deposit taking Non-Banking Financial Companies (NBFCs-ND) with an asset size of Rs 500 crores or more are classified as systemically important or are termed as Non-Deposit Taking Systemically Important Non-Banking Financial Companies (NBFCs-ND-SI). On the basis of activities undertaken, Non-Banking Financial Companies are divided into 11 categories.

The total numbers of NBFCs as on March 31, 2019 are 9642 of which 82 are NBFCs-Deposit, 274 are NBFCs-ND-SI and other NBFCs-ND are 9187 in number. The aggregate asset size of NBFC sector stood at Rs. 30, 85,480 crores, with NBFCs-ND-SI dominating the entire NBFC sector with total assets of Rs. 26, 63,588 crores, which represent 86.3% of total asset size of the overall NBFC sector. Debentures, bank borrowing and commercial papers account for 54.2% of total liability of NBFCs-ND-SI. Loans, advances and investment form 89.58% of total assets of NBFCs-ND-SI. Thus, overwhelming importance of NBFCs-ND-SI among all NBFCs in the country, as well as its linkages with the banking industry and the capital market are the main considerations for selecting them for the purpose of evaluating the impact of COVID-19 pandemic on their financial performance, which is of critical importance for shedding light on the stability of the country's financial system too.

Indian economy is currently facing an economic downturn due to outbreak of COVID-19 pandemic. This is evident from the reduction in the index of industrial production to the extent of 18%, 55% and 35% respectively for the months of March, April and May 2020 as is measured in terms of year-on-year basis. This does not augur well for the non-banking financial companies (NBFCs) who have around 55% of stake in industrial lending of the total advances made as on Mach 2019.Moreover, RBI permitted lending institutions to allow a moratorium of three months on payment of instalments in respect of all term loans outstanding as on March 1, 2020 till May 31, 2020 which later extended to August 31, 2020. NBFCs extended the moratorium to their customers but most of the banks have remained hesitant to extend moratorium to NBFCs which may dry up the credit lines considerably of various sizes of NBFCs affecting their future disbursements. Moreover, moratorium on customers will choke the cash inflows of NBFCs who have to manage liquidity by matching cash inflows from loan repayment by customers with cash outflows to repay their own liabilities. As per a report released by Moody's (Bloomberg, May 2020), economic shock from corona outbreak will lead to deterioration in asset quality of NBFCs as they cater riskier segment of non-salaried individuals employed in informal sector who have a higher probability of losing jobs in this financial distress and NBFCs also have higher funding costs because of lack of access to low-cost deposits. This further aggravates the problem of cash inflows.

In order to mitigate credit risk and address the liquidity stress arising in pandemic-hit financial system, RBI initially conducted first edition of the targeted long-term repo operations (TLTRO-1) on March 27, 2020 of Rs. one lakh crores in four equal tranches. The allocated amount in each tranche was specifically meant for investing at least half the money in corporate bonds, commercial papers (CPs) or certificate of deposits (CDs). Commercial banks which mainly subscribed to the liquidity offered in each tranche were used to purchase investment grade bonds of the companies. In this process small and mid-sized NBFCs suffered due to lack of sufficient amount of investment grade bonds to be offered to commercial banks that could invest in them and provide liquidity support to small and mid-sized NBFCs. As a consequence, RBI has to announce second edition of targeted long-term repo operations (TLTRO-2) on 17 April 2020. It aimed at ensuring liquidity by conducting TLTRO-2 operations at policy repo rate with a window of Rs. 50000 crores for tenors up to 3 years. Funds availed under it shall be deployed in investment grade bonds, commercial papers and non-convertible debentures (NCDs). At least 50 percent of the total funds availed shall be dispensed as follows:

- 10 per cent in securities/instruments issued by Micro Finance Institutions (MFIs);
- 15 per cent in securities/instruments issued by NBFCs with asset size of Rs. 500 crores and below; and
- 25 per cent in securities/instruments issued by NBFCs with assets size between Rs. 500 crores and Rs. 5,000 crores.

However, banks bid only for Rs. 12,850 crores out of Rs. 25000 crores in the first auction under TLTRO-2, showing a tepid response by them to invest in NBFCs in the time of crisis because of fallen risk appetite of banks. RBI took TLTRO measures to augment the lending operation of NBFCs in view of their rising importance in the economy.

Thus, the dried cash inflow due to moratorium and hesitance of banks in lending to NBFCs especially to small mid-sized ones could be a double blow, which may augment defaults and increased roll-over risk on short term borrowings of NBFCs in the time of pandemic. In this backdrop, present article explores the impact of COVID-19 pandemic on selected NBFCs- ND-SI.

Literature Review and Research Gap:

The purpose of this paper is to analyze the impact of COVID-19 pandemic on financial performance of selected non-deposit taking systemically important non-banking financial companies which one can examine especially through the maturity profile of the assets and liabilities of the companies. In this context Ray (2019), has explored the activities, sources of funds of non-banking financial companies as well as highlighted the problem of financial stability occurring on account of non-performing assets (NPAs) of both banks and non-banking financial companies as the financial relation between the two is highly interconnected. Moreover, he has expressed the need to correctly diagnose the rationale for the occurrence of tremors caused on account of Infrastructure Leasing and Financial Services (IL&FS) default on country's financial system so that policy measures could accordingly be formulated so as to get rid of these shocks.

An article by Rituraj, Kumar and Meena (2020) has assessed the impact of disruptions arising out of COVID-19 pandemic in India and changing mutual fund sector on the state of market financing of NBFCs by analyzing the combined data of top 100 NBFCs based on their asset size. They have shown that corporate bonds and non-convertible debentures are important sources of market funding for private NBFCs and they have been hit hard due to COVID-19 pandemic experiencing a steep fall in the share of corporate bonds and non-convertible debentures (NCDs) in overall corporate bond market issuance. Financing through Commercial Papers (CPs) has been on a gliding path since Infrastructure Leasing & Financial Services (IL&FS) episode due to reluctance in investment by the mutual fund industry which holds a substantial share in CP market. The downfall in meeting financial requirements of lower rated NBFCs short term debt instruments has been more severe due to stringent economic situation. NBFCs are facing challenges due to upcoming exacerbated redemptions of market borrowings coupled with blocked cash inflows due to extension of moratorium till August 31, 2020 to their borrowers and high-risk aversion among investors in recent months. Those NBFCs are particularly vulnerable which borrows heavily through debt securities from the capital market. They may face trouble due to stress in mutual fund industry which lends heavily to NBFCs. Moreover, they observed that problem is not of mere liquidity but also of a decline in the credit quality due to disruptions in business activities because of COVID-19 pandemic. The measures therefore taken by Reserve Bank of India (RBI) such as targeted long-term repo operations (TLTRO) have provided only some relief. Apart from liquidity infusion, there is a strong need to build trust and restore confidence in market so that issue of disrupted flow of market financing to NBFCs due to COVID-19 can be addressed. Government of India has taken few steps such as Partial Credit Guarantee Scheme (PCGS) and liquidity infusion via Special Purpose Vehicle (SPV) to simmer down yield on CPs and to eradicate the trust deficit that is gripping the market due to pandemic. They have suggested that there is a need for greater penetration and deepening of corporate bond market along with development of credit default swap market to mitigate credit risk arising in corporate bond market as medium-term measure.

In an important article by Ratho and Kumar (2020), they have shown the impact of recent policy efforts by RBI on cost of borrowings, issuance of marketable instruments such as CPs and financing situations in financial market of India. They assessed that failure of IL&FS in 2018 and financial breakdown of a Housing Finance Company (HFC) in 2019 shaken up the confidence of market towards NBFCs and HFCs. However supportive liquidity infusion measure by RBI such as open market operations (OMOs) and allowing commercial banks to provide partial credit enhancement to bonds of selected NBFCs, helped NBFCs and HFCs to be back on track for a certain period of time. This incentivized NBFCs to reduce their reliance on short-term financing on CPs (3-months). However, with the outbreak of COVID-19 in 2020 again there was a spike in loss of investors' confidence as they feared the blockage in revenue stream due to disruption in economic activities. To address it, RBI announced TLTRO on March 27, 2020 which on the one hand revived the risk appetite of investors and on the other hand ameliorated the share of primary issuance in corporate bonds by non-AAA rated NBFCs from 16% in April 2020 to 25% in June 2020.Excess liquidity injected by RBI through LTRO and TLTRO has reduced the cost of financing in corporate bond market. It also helped in enhancing easy approach to non-AAA rate entities by investors because of changing risk appetite of investors and financial market has seen a surge in primary issuance. They further concluded that in challenging time of COVID-19, policy tools used by RBI has succeeded in guarding the financial stability by ensuring adequate liquidity in overall financial system along with smoothing out any glitches arising in individual financial sectors through targeted measures. Government measure such as PCGS has complemented the RBI's steps and has mitigated solvency risk.

COVID-19 is a new phenomenon which has affected the NBFCs in unprecedented ways. Paucity of data has led to inability of carrying out any research work using empirical tools to assess the impact of COVID-19 on NBFCs. In the wake of unavailability of updated data regarding cash flows of NBFCs, only a proxy variable for which data is available up to July 2020 like stock prices of certain NBFCs can be used to empirically assess the impact of COVID-19 on the financial performance of NBFCs. This would impart novelty in bringing out the impact of COVID-19 pandemic at the micro level on companies of different asset sizes as well as having differences in their pattern of cash inflows and outflows, which is hitherto neglected in the studies outlined in literature review. It will be interesting to see if our findings at micro level are in consensus with the broad inferences emerged from the studies summarized earlier that have used aggregate data set of different NBFCs.

Objectives and Hypothesis

In order to systemically examine the impact of COVID-19 pandemic on financial performance of NBFCs-ND-SI following objectives have been outlined:

a. To scrutinize the maturity pattern of the advances and repayment obligation on borrowings in the short run of the 32 selected non-deposit taking systemically important non-banking financial companies of different asset sizes ranging from over Rs. 500 crores to Rs.3.5 lakh crores.

b. To classify the 32 selected non-deposit taking systemically important non-banking financial companies into different groups on the basis of the maturity pattern of the advances and repayment obligation on borrowings.

c. To investigate the impact of COVID-19 pandemic and its severity on the financial performance of selected NBFCs.

d. To identify factors that has mitigated the severity of the impact of COVID-19 pandemic on the financial performance of selected NBFCs.

e. To assess the sustainability and resilience of non-deposit taking systemically important non-banking financial companies.

COVID-19 is a negative exogenous shock having a disruptive impact on economic activities. Therefore, we can hypothesize that it will have a negative bearing on the financial performance of NBFCs. Since statistical tests require testing of null hypothesis, we can therefore formulate null and alternative hypothesis as follows:

H_0: There is hardly any significant negative impact of COVID-19 on financial performance of selected non-deposit taking systemically important non-banking financial companies.

H_1: There is significant negative impact of COVID-19 on the financial performance of selected non-deposit taking systemically important non-banking financial companies.

Methodology and Data Sources:

One of the principal objectives is to classify 32 selected non-deposit taking systemically important non-banking financial companies of different asset sizes ranging from Rs.500 crores to Rs.3.5 lakh crores into different categories. For this we have selected Bajaj Finance Limited as the standard firm because its share prices (refer Appendix 2) have remained highest as compared to any other selected NBFC throughout the period of analysis. Its pattern of the maturity profile of cumulative cash inflows and outflows over a short period of time of up to one year are considered as benchmark to classify selected NBFCs into different categories. Accordingly, all the 32 NBFCs-ND-SI are classified into three categories.

In the first category those NBFCs-ND-SI are grouped whose cumulative cash outflows in the short run are in excess of 35% and that cumulative cash inflows are less than cumulative cash outflows over short run period of time of up to one year. It is therefore appropriate to describe the financing model of this particular group of NBFCs as ***'short run financing model with cash outflows in excess of 35% and cash inflows are less than cash outflows.'***

In the second category those NBFCs are grouped whose cumulative cash outflows in the short run are in excess of 35% and that cumulative cash inflows are in excess of cumulative cash outflows over short run period of time of up to one year. It is therefore appropriate to describe the financing model of this particular group of NBFCs as ***'short run financing model with cash outflows in excess of 35% and cash inflows are in excess of cash outflows.'***

Finally, in the third category those NBFCs are grouped whose cumulative cash outflows are less than 35% in the short run and that cumulative cash inflows could either be in excess or less than cumulative cash outflows over short run period of time of up to one year. It is therefore appropriate to describe the financing model of this particular group of NBFCs as ***'Long run financing model.'***

Further, in order to assess the category wise implications of the maturity pattern of advances and borrowings, inflows and outflows of varying maturity periods along with cumulative inflows and outflows of different maturities up to a maximum of 12 months are matched with each other for broad groups, as well as for each NBFC within a particular group. This has enabled us to infer the extent of short-term risk exposure of different NBFCs and whether any negative exogenous shock has the tendency to aggravate it or not. Since the data pertaining to cash inflows and outflows is not available beyond March 2019 for all selected NBFCs, therefore it is difficult to test null hypothesis and evaluate the impact of COVID-19 pandemic on the financial performance of the selected NBFCs. We have therefore used a proxy variable namely closing stock prices of those NBFCs amongst the selected ones who are listed at the Bombay Stock Exchange (BSE). In order to evaluate the impact of COVID-19 pandemic on the financial performance of the selected NBFCs, we have applied dummy variable regression model by considering the financial performance of NBFCs in terms of closing price indices of shares of NBFCs listed at BSE from the selected groups as dependent variable and dummy variable as independent variable assigning value 1 for the period since March 2020 when lockdown was imposed in India due to COVID-19 pandemic. Otherwise it is 0, indicating an absence of any impact of COVID-19 pandemic. The regression equation therefore is written as:

$$P_i = \alpha + \beta (D_i) + u_i$$

Where, P_i is closing price index of shares of i^{th} NBFC, α is the intercept term, β is the regression coefficient associated with dummy variable D_i, such that $D_i = 1$, for the period March 2020 until the terminal month of the study and 0 otherwise for period prior to March 2020, u_i is error term.

If the value of β is negative and significant then the impact of COVID-19 pandemic is severe and selected NBFCs would find it difficult to bear the repayment obligation which would considerably augment their financial stress and would also impair their sustainability and financial resilience. Moreover, the results and its scrutiny on the basis available evidences about the companies would also throw sufficient light to verify the use of proxy variable as appropriate or not in explaining the impact of COVID-19 pandemic on the financial performance of the companies.

The data for the present study of 32 non-deposit taking systemically important non-banking financial companies (NBFCs) is taken from their standalone balance sheets for the year ending on 31 March, 2019 as published in their annual reports for the year 2018-19. The asset sizes of these NBFCs vary from Rs. 500 crores to Rs.3.5 lakh crores, thereby representing all types namely small, mid-sized and large companies. These companies together constitute 55.65% of total assets of NBFC-ND-SI for the year ending on March 2019. Data of closing price indices of shares of listed NBFCs at BSE is taken from the website of the BSE since July 2019 to July 2020 so that impact of COVID-19 pandemic since it disrupted economic activities in India could be clearly highlighted.

Analysis and Findings

One of the reasons for the collapse of major NBFCs in the past like Infrastructure Leasing & Financial Services (IL&FS) is the mismatch in the maturity profile of its assets and liabilities. A careful scrutiny of the assets which represent cash inflows and liabilities that correspond to cash outflows based on the lending and borrowing activities of NBFCs has enabled us to outline certain norms to classify all 32 NBFCs into three broad categories. These norms are as follows:

- Cash outflows exceeds inflows with percentage of short run repayment obligation of the total borrowed amount is fairly adequate i.e. in excess of 35%.
- Cash inflows exceeds cash outflows with percentage of short run repayment obligation of the total borrowed amount is fairly adequate i.e. in excess of 35%.
- Percentage of short run repayment obligation of the total borrowed amount is relatively low i.e. less than 35% and that cash outflows may either exceed or falls short of cash inflows.

These norms are not considered in an arbitrary way but are derived on the basis of the pattern of cumulative cash inflows and outflows observed for one of the standard NBFC which is the Bajaj Finance Limited because its share prices at BSE has been highest and remained fairly stable during the fiscal year 2018-19. Based on these norms the category-wise classification of NBFCs is exhibited in table-1. It is evident from table- 1 that there are nine NBFCs whose cumulative cash outflow exceeds cumulative cash inflow over a short stretch of time of up to one year and that cumulative cash outflow of each of these NBFCs is in excess of 35%.This asset liability mismatch is not a cause of much alarm for these NBFCs in the short run period under normal circumstances as these NBFCs could meet the repayment obligation easily by borrowing from capital market or through the banks. However, if there is any negative exogenous shock of a high magnitude like the COVID-19 pandemic which led to disruption in economic activities to the extent that animal spirit of investors is weakened, then it will adversely affect the capital market and hence the borrowing capacity of NBFCs too.

Moreover, lack of work and risk of exposure to COVID-19 pandemic led to reverse migration for majority of the migrated workers. This clearly signals the job losses in the country.

Table 1: Category-Wise Classification Based on Maturity Profile of up to 12 Months of Cumulative Cash Inflows (CCI) and Outflows (CCO) of Selected NBFCs

Category – 1 **Short Run Financing Model: CCO > CCI & CCO as % Total Cash Outflows over all maturity periods is in excess of 35%**	**Category – 2** **Short Run Financing Model: CCI > CCO & CCO as % Total Cash Outflows over all maturity periods is in excess of 35%**	**Category – 3** **Long Run Financing Model: CCI > or < CCO & CCO as % Total Cash Outflows over all maturity periods is less than of 35%**
HDBFS	STFC	PFC
CHLMNDLM	SCUFL	REC
KMPL	SNDRM	IIFCL
TMFL	MAS FIN SER	RCL
MAGMA	STCI FIN LT	IFCIL
INDOSTAR	BAJAJ FIN	TFCL
JMFCSL	M&M FIN	AVANSE
IKF FIN	MTHOOT	SREI INFRA
KOGTA	TCFL	CAPRI
	MNPPURM	PTC IFSL
	SATIN	L&T IFL
	KOSSMTM	

Source: Classified on the basis of data given in Table 1A.
Note. For full form of NBFCs, refer Table 1A.

In addition, reduction in mobility due to pandemic has put the transport sector in financial distress and its repercussion would be transmitted to these NBFCs whose major thrust of financing is towards vehicle segment business activity. The resale value of such assets which act as collateral for loan depreciate fast therefore problem of financial distress for these NBFCs gets further aggravated. Our objective to verify whether COVID-19 pandemic has a considerable negative impact is evaluated by the fitted regression equations (refer table-2). Among all the nine NBFCs in category-1 there are just three NBFCs whose stocks are listed at the BSE. The results of the estimated regression equations clearly reveal that the coefficients associated with the dummy variable for each of two NBFCs namely Cholamandalam and Magma Finance Corporation are negative and significant (refer table-2), which suggest that COVID-19 pandemic has substantially depressed their share prices since the lockdown period in the country.

Table 2: Results of Dummy Variable Regression Model for NBFCs in Category -1

Dependent Variable: Share Price (P_i), Independent Dummy Variable (D_i), Time Period: July2019-July 2020			
NBFCs	**Constant**	**Regression coefficient associated with dummy variable**	**R^2**
CHLMNDLM	298.9 (34.3)	-128.6 (-9.1)	0.884
MAGMA	57.2 (17.03)	-36.6 (-6.76)	0.806
INDOSTAR	239.3 (17)	26.7 (1.2)	0.113

Source: Estimated by authors on the basis stock price indices given in table A2

Note. Dummy variable = 1 for time period since March 2020, otherwise 0. Figure in parenthesis are t-values.

Further, the value of R^2 is 0.884 and 0.806 respectively, which suggest that dummy variable alone explain over 80% of the total variations in the stock prices of each of the two NBFCs namely Cholamandalam and Magma Finance Corporation. The fact that overall goodness of fit of the model is also significant is enough indication of the fact that COVID-19 pandemic has a considerable negative impact on the financial performance of both these NBFCs which is in line with our alternative hypothesis (H_1) while the null hypothesis stands rejected.

As regards the third NBFC namely Indostar Capital Finance Limited it is the alternative hypothesis (H_1) that stands rejected while the null hypothesis is accepted (H_0) as its regression coefficient associated with the dummy variable is positive but not significant (refer table-3). Moreover, its R^2 is also low and is just 0.113 which reflect that change in dummy variable hardly explain any noticeable change in stock prices. This is indeed strange for a company whose stock prices fell unabatedly from July to December 2019 even when economy functioned normally and when economic activities were disrupted the share prices increased marginally. Our thorough investigation of the business activities of the company revealed that its asset quality deteriorated considerably because of loans extended to corporate sector and acquisition of the commercial vehicle business of the India Infoline company since April 2019. The effects of both these activities were reflected in the share price of the company diminishing from July to December 2019. Thereafter share prices showed a tendency to move up because of Rs 1225 crores of investment decision in equity capital by the Canadian firm namely Brookings Asset Reconstruction Company. Thus despite massive investment in equity by Brookings Asset Reconstruction Company and becoming co-promoter in Indostar, yet there has been hardly any noticeable increase in the share prices (refer table-2) of the Indostar. This at least signifies that disruption in economic activities due to COVID-19 pandemic has been so severe that it failed to revive investors' optimism up to a desired extent. This also implies that pattern of change in share indices adequately captures even those changes that are made in the company to augment its financial performance of the company in the market.

Considering the results of all the three companies together, it will not be far too wrong in generalizing the inference that there is a significant negative impact of COVID-19 pandemic on the financial performance of majority of NBFCs in category-1 because all NBFCs in this category have more or less homogenous business as well as borrowing and lending activities, except in cases where certain idiosyncratic factors like massive infusion of equity capital have diluted the significant negative impact of COVID-19 pandemic on the financial performance of the company, but such cases are rare which will unfold further, as we extend our analysis on to the companies placed in category-2 and category-3.

The scrutiny of cumulative cash inflows and outflows of the 12 NBFCs placed in category-2 has revealed that though cumulative cash inflow exceeds outflow yet the repayment obligation for more than half of these NBFCs is in excess of 50% of the total cash outflow over short period of time of up to one year. This has raised concern about the increased risk of short run borrowing and lending mechanism to remain viable because of high repayment obligation in the short run, coupled with substantial disruption in business activities and six months moratorium imposed on cash inflows by RBI. Further, the fact that year on year growth of index of industrial production for March, April and May is continuously negative (refer table-3), which does not augur well for the financial health of all NBFCs in this category especially those whose short run repayment obligation exceeds 50%.

Table-3: Year on Year Growth of Index of Industrial Production

Months During the Year 2020	Y-O-Y Growth (in %)
March	-18.32
April	-55.49
May (Q.E)	-34.71

Source: www.mospi.nic.in

Again, in order to assess the impact of COVID-19 pandemic on the financial health of all these NBFCs, dummy variable regression model is applied whose results are given in table-4.

Table 4: Results of Dummy Variable Regression Model for NBFCs in Category -2

Dependent Variable: Share Price (P_i), Independent Dummy Variable (D_i), Time Period: July 2019-July 2020			
NBFCs	**Constant**	**Regression coefficient associated with dummy variable**	**R^2**
STFC	1082.7 (35.9)	-401.6 (-8.28)	0.862
SCUFL	1364.7 (95.4)	-667.3 (-28.9)	0.987
SNDRM	1594.2 (61.3)	-311 (-7.4)	0.833
MAS FIN SER	774.4 (15.2)	-163.6 (-1.99)	0.265
BAJAJ FIN	3974.2 (23.1)	-1448.7 (-5.2)	0.713
M&M FIN	336.7 (42.1)	-171.8 (-13.3)	0.942
MTHOOT	710.1 (14.4)	191.3 (2.41)	0.347
MNPPURM	153.2 (16.4)	-20.1 (-1.33)	0.14
SATIN	240.5 (19.8)	-170.6 (-8.7)	0.874

Source and Note: Same as table 2

It is evident from table-4 that of the nine NBFCs listed on BSE there are seven NBFCs for whom the coefficients associated with the respective dummies are negative and significant at 10% or better levels indicating a substantial fall in the share prices of these companies since the lockdown period in the country. The significant negative impact on the share prices of the seven NBFCs reflects loss of investors' confidence in the stocks of these companies as they could foresee a severe deterioration in their financial performance since the lockdown period in the country. This is especially because of decline in the growth of industrial production and restricted mobility of people since majority of these NBFCs has been lending in the activities related to it like vehicle segment, corporate sector, MSME etc. This inference is in line with the alternative hypothesis (H_1) that COVID-19 pandemic has a significant negative impact on the financial performance of the NBFCs, while the null hypothesis (H_0) stands rejected.

However, there are two other NBFCs for which our alternative hypothesis (H_1) does not hold (refer table-4). These are Mannapuram and Muthoot Finance Companies. Their business is dominated by the gold loans. The share of gold loan in total advances disbursed by Mannapuram and Muthoot Finance Companies is nearly 66% and 88% respectively.

Since the gold prices in India has increased by about 10% since the imposition of lockdown, therefore even if their loan becomes non-performing, the underlying asset namely gold against which the loan is granted is enough to provide adequate return to the company. It is because of this the coefficient associated with the dummy variable is positive and significant in the case of Muthoot Finance Company, which suggests that the company's stock prices have improved considerably since the lockdown period. It is important to note that in the case of Muthoot Finance Company though the short run repayment obligation is above 75% but yet its share price has not come down clearly signals investors extreme trust and confidence on the company's strong financial viability amidst disruption in economic activities due to COVID-19 pandemic. It also follows from this, that changes in stock prices are satisfactory reflection about the financial performance of a company.

Thus, in this case our hypothesis stands contradicted because of the idiosyncratic factor associated in the form of substantially high proportion of gold loan in total advances of the company.

Another company where our hypothesis of a significant negative impact on the financial health of the company does not hold is the Mannapuram Finance Company because its business activities resembles to that of Muthoot Finance Company, but with some degree of difference in the relative asset size, magnitude of gold loan business and the company's repayment obligation in the short run. The main business activity is gold loan but its share in total assets is almost 22% less than in the case of Muthoot Finance Company, while repayment obligation in the short run of up to one year is almost 10% higher than that of Muthoot Finance Company and the asset size of Mannapuram Finance Company is Rs. 17646 crores (Company's Annual Report, 2018-19) which is less than half of that of Muthoot Finance Company whose asset size is almost Rs. 38069 Crores (Company's Annual Report, 2018-19). Thus, relatively lower gold loan business, higher short period repayment obligation and considerably lower asset size of Mannapuram Finance Limited as compared to that of Muthoot Finance Limited are the prime factors due to which one could observe a contrast in the impact of COVID-19 pandemic on the stock prices of two companies. The regression coefficient associated with the dummy variable in the case of Mannapuram Finance Company is negative but insignificant which reflects that stock prices of the company have declined but only marginally on account of COVID-19 pandemic. The significance of these results is of utmost importance from the policy viewpoint so that in the absence of updated data of different companies about their cash flows, their stock prices should be considered as reasonable indicators to judge their financial performance and accordingly measures about their sustainability and resilience could be formulated.

In all there are 11 NBFCs in category-3 whose short-term repayment obligations are less than 35% and barring two NBFCs namely Capriglobal Finance and India Infrastructure Finance Limited all others have cumulative cash outflow exceeding inflows over a short stretch of time of one year. Despite the fact that short run repayment obligation of all NBFCs in this category is low as compared to other categories, yet the adverse impact of COVID-19 pandemic on their financial performance has been severe (refer table-5).

From table-5 it is evident that the share prices of the majority of NBFCs have declined considerably since the imposition of lockdown in the country as the coefficient associated with the dummy variable for each of the nine listed NBFCs at BSE is negative and significant at 10% or better levels. The significant drop in the share prices of the majority of NBFCs shows that the pandemic would affect the financial health of even those companies whose major repayment obligation is in the medium or long period of time.

This is indeed a cause of concern not only for these NBFCs but also for other NBFCs as the impact of COVID-19 pandemic is not going to subside in the near future, rather it would persist little long. The prolonged operation of 'inertia effect' in the economy has restricted the free flow of business activities whose cost has to be borne by NBFCs as well as other financial institutions.

Table 5: Results of Dummy Variable Regression Model for NBFCs in Category–3

Dependent Variable: Share Price (P_i), Independent Dummy Variable (D_i), Time Period: July 2019 - July 2020			
NBFCs	**Constant**	**Regression coefficient associated with dummy variable**	**R^2**
PFC	110.15 (45.25)	-24.15 (-6.15)	0.775
REC	136.26 (39.89)	-39.16 (-7.11)	0.821
IIFCL	1075.32 (123.9)	-2.39 (-0.171)	0.003
RCL	22.05 (5.11)	-13.2 (-1.9)	0.249
IFCIL	6.74 (16.66)	-1.24 (-1.9)	0.248
TFCL	74.52 (32.73)	-39.17 (-10.67)	0.912
SREI INFRA	9.67 (13.91)	-3.99 (-3.56)	0.536
CAPRI	189.15 (27.07)	-27.8 (-2.46)	0.356
PTC IFSL	13.28 (20.17)	-2.6 (-2.44)	0.353
L&T IFL	1034.87 (111.11)	-15.4 (-1.02)	0.087

Source and Note: Same as table 2

The cost for certain NBFCs would be high which could impair their sustainability and resilience to such an extent that it would be difficult for some of them to remain in business. Our observation is corroborated by the fact that there has been a steep decline of almost 78% year on year basis in the sales of passenger vehicles for the quarter ending June 2020 (The Hindu, July14, 2020) and majority of NBFCs whose one of the principal lending activity is passenger vehicles would obviously face difficulties in recuperating from this shock as the impact of the shock is expected to last for three years or more (The Hindu, July14, 2020).

The policy makers have put much of the effort in resolving liquidity constraints in the current period through different measures like, targeted long-term repo operations (TLTRO), creation of special purpose vehicle (SPV) with SBI, and partial credit guarantee scheme (PCGS-2). The act of liquidity infusion among NBFCs in the current period simultaneously raises their future indebtedness because the amount borrowed today has to be repaid in the near future. These policy measures would only diffuse current liquidity crisis of NBFCs but shifts greater financial instability for them, as well as for the financial system because of strong inter-linkages of NBFCs with banks. The need is to formulate such measures that could ensure sustainability and resilience of non-deposit taking systemically important non-banking financial companies. Merely addressing their current liquidity constraint is not going to make them viable. Our observation is in line with the viewpoint of Rituraj, Kumar and Meena (2020) who have made a similar remark that, “Problem is not just of liquidity but, possibly, of expectations of deterioration in credit quality on account of COVID-19 related disruptions.” The need therefore is not only to address the liquidity problem but also to convert them into banks so that they have access to low cost deposit funds for the purpose of lending. Most of these NBFCs have number of subsidiaries which should be merged into single entity before converting them into a large or small finance bank depending upon the size of their business activities. Another possibility could be to merge them with either public or private sector banks. If Development Financial Institutions (DFIs) can function effectively after their conversion into banks then there is enough substance in removing the tag of ‘Shadow’ from the term ‘Shadow Banks,’ which is commonly used as an alternative expression for the non-banking financial companies.

Conclusion

Our study of the 32 selected NBFCs - ND-SI has clearly highlighted that despite differences in their asset sizes as well as maturity pattern of their cumulative cash inflows and outflows the effect of COVID-19 pandemic has been extremely severe on a sizeable majority of NBFCs except in three cases, because of certain idiosyncratic factors like excessive amount of gold loan or infusion of equity capital by multinational corporation. During the course of analysis, it has been observed that the change in stock price indices is a fairly satisfactory indicator to account for the extent of reversal in the financial performance of the company due to the occurrence of a shock either due to endogenous or exogenous factors. The dominance of negative exogenous shock on NBFCs due to disruption in economic activities because of COVID-19 pandemic is strong and lasting. Mere infusion of liquidity in the current period may diffuse their short-term liquidity crisis but would not resolve it. High interconnectedness with overall financial system and "too big to fail" criterion require these NBFCs to be converted into commercial banks as has happened in case of Development Financial Institutions.

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APPENDICES

Table A1: Cumulative Cash Inflows and Outflows in the Short Run of up to One Year as a Percentage of Total Inflows and Outflows over entire Maturity Period of 32 selected NBFCs

Systemically Important Non-Deposit Non-Banking Financial Company	CI as % of TI	CO as % of TO	GAP = CI-CO (Rs. Crores)
Cholamandlam Investment and Finance Company Limited (CHLMNDLM)	30.55%	36.19%	-1682
Kotak Mahindra Prime Limited (KMPL)	53.45%	61.94%	-71
Tata Motors Finance Limited (TMFL)	33.32%	52.05%	-5379
Magma Fincorp Limited (MAGMA)	40.30%	64.47%	-2007
IndoStar Capital Finance Limited (INDOSTAR)	25.26%	51.73%	-2035
JM Financial Credit Solutions Limited (JMFCSL)	26.57%	45.69%	-429
Kogta Financial (India) Limited (KOGTA)	32.12%	56.86%	-56
IKF Finance Limited (IKF FIN)	39.22%	54.16%	-39
Shriram Transport Finance Company Limited (STFC)	37.89%	40.7%	5073
Shriram City Union Finance Limited (SCUFL)	50.79%	51.64%	3637
Sundaram Finance Limited (SNDRM)	43.77%	47.20%	3442
MAS Financial Services Limited (MAS FIN SER)	55.30%	75.10%	263
STCI Finance Limited (STCI FINLT)	70.47%	73.15%	395
Bajaj Finance Limited (BAJAJ FIN)	48.62%	35.49%	17716
Mahindra & Mahindra Financial Services Limited (M&M FIN)	43.57%	38.14%	8692
Muthoot Finance Limited (MTHOOT)	97.89%	77.96%	13279
Tata Capital Financial Services Limited (TCFL)	69.67%	57.35%	9507
Manappuram Finance Limited (MNPPURM)	91.99%	87.72%	2630
Satin Creditcare Network Limited (SATIN)	81.73%	55.36%	2085
Kosamattam Finance Limited (KOSSMTM)	98.71%	43.87%	1283
Power Finance Corporation Limited (PFC)	11.33%	24.16%	-35886
REC Limited (REC)	10.34%	20.48%	-21056
India Infrastructure Finance Company Limited (IIFCL)	9.21%	4.26%	4060
Reliance Capital Limited (RCL)	1.77%	15.99%	-3016
IFCI Limited (IFCIL)	22.41%	21.85%	-573
Tourism Finance Corporation of India Limited (TFCL)	9.56%	13.20%	-13
Avanse Financial Services Limited (AVANSE)	22.29%	30.73%	-126
Srei Infrastructure Finance Limited (SREI INFRA)	31.75%	34.05%	-551
Capri Global Capital Limited (CAPRI)	28.78%	32.89%	262
PTC India Financial Services Limited (PTC IFSL)	8.10%	32.78%	-2534
L&T Infrastructure Finance Company Limited (L&T IFL)	28.98%	34.07%	-480

Source: Annual Reports (2018-19) of selected NBFCs. **Note.** CI represents cumulative cash inflow, TI represents total inflows, CO represents cumulative cash outflow, TO represents total outflows.

Table A2: CLOSING STOCK PRICE INDICES OF SELECTED AND LISTED NBFCs AT BSE

Months/ NBFCs	JULY-2019	AUG-2019	SEPT-2019	OCT-2019	NOV-2019	DEC-2019	JAN-2020	FEB-2020	MAR-2020	APR-2020	MAY-2020	JUN-2020	JULY-2020
CHOLA	259.4	268.65	307.25	305	312.15	305.65	326.7	306.4	152.95	159.4	141.7	189.1	208.35
MGMA	79.6	65.2	51.65	53.8	51.95	54.2	58.2	43	17.1	18.2	13.35	27.33	26.2
INDSTR	296.95	276.85	218.2	189.2	191.75	180.65	282.5	278.75	250.15	266.05	279.45	258.2	276.9
STFC	968.45	966.2	1070.3	1139.3	1127.15	1171.5	1020.8	1197.95	663	781.55	572.05	689.35	699.1
SCUF	1369.4	1334.5	1340	1323.05	1357.3	1413.2	1349.7	1430.85	740	734.4	635.95	671.25	705.55
MAS	586.45	591.65	685.35	720.75	712.8	860.65	982.85	1054.95	526.45	611.55	575.45	665.25	675.35
SNDRM	1510.1	1515.75	1630.35	1607.9	1629.5	1636.4	1642.25	1582.05	1200.45	1259.6	1246.65	1455.5	1253.85
BAJ	3250.9	3331.6	4050.15	4024.9	4073.25	4235.1	4365.25	4463.1	2216.05	2317.05	1952.7	2828.9	3313.1
M&M	304.75	320.05	328.4	352.85	351.65	322.3	368.75	345.45	147.4	165.95	139.95	167.65	203.85
MTHOT	608.5	606.9	676.55	707.4	678.35	761.35	762.7	879.7	611.6	863.55	861.95	1086.7	1084
MNPRM	113.5	118.85	141.15	169.7	154.4	177.4	188.15	162.75	94.75	134.3	125.2	151.3	159.95
SATIN	267.25	269.75	312.85	220.8	227.8	215.45	230.3	179.8	63.8	61.15	50.5	82.55	91.1
PFC	109.8	104.95	99.25	109.1	114.45	117.8	116.6	109.3	92.15	95.35	75.1	84.15	83.25
REC	140.2	144.2	123.1	139.8	137.85	143.25	143.7	118	88.75	95.65	88.5	108.15	104.45
IIFCL	1096.11	1078.5	1085	1082	1095	1095.02	1029	1042	1035	1070	1084.79	1086.9	1088
RLNC	52.1	34.9	24.55	19.3	15.15	14.75	9.08	6.64	4.49	8.57	6.68	12.72	11.56
IFCI	7.21	7.08	7.02	7.27	7.06	6.62	6.36	5.3	4.07	4.06	4.73	7.54	7.08
TFCI	60.55	84.05	78.15	80.8	77.6	76.05	73.35	65.65	34	33.75	33.05	39.05	36.9
SREI	11.85	11	9.3	10.45	9.03	7.93	9.99	7.85	3.58	3.97	3.98	9.67	7.19
CAP	155.5	152.7	213.7	199.75	188.95	202.7	193.65	206.25	171.15	151.75	144.5	167.25	172.1
PTC	13.4	12.46	12.6	13.65	13.51	13.38	14.57	12.69	7.83	9.62	8.54	12.57	14.85
L&T	1030.6	1036.2	1060	1062.0	1069.2	1004	1007	1010	979	1013	1021	1041.2	1043.1

Source: www.bseindia.com