

SUPPLEMENTARY REPORT

STUDY ON THE IMPACT OF ECLGS

For

NATIONAL CREDIT GUARANTEE TRUSTEE COMPANY (NCGTC)

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TABLE OF CONTENTS

No.	Chapter Name	Page Number
III	ANALYSIS OF MSME SURVEY RESPONSES	3
V	EMPIRICAL ANALYSIS OF MSME RESPONSES	18

CHAPTER III

ANALYSIS OF MSME SURVEY RESPONSES

Introduction

In this chapter, we present the survey responses from 1948 firms – both MSME and other business enterprises. The main results are as under:

1. Most of the respondents feel that the ECLGS will ease short-term liquidity problems. The majority also observe that the impact will be short-term – up to three months. Hence, firms appear to treat this scheme as a policy measure, to enhance their liquidity support.
2. A much smaller fraction observe that ECLGS will increase business volume, which is a longer – term concern. In fact, many of them are not sure how long it will sustain their business operations.
3. Most respondents want to use GECL to clear supplier dues and restart operations.
4. Most of them also state that it was easy to obtain GECL from banks/FIs.

However, the responses also highlight some areas of concern. These are:

1. The distribution of GECL disbursement is inequitable – 80% of the total borrowers get only 30% of the total amount.
2. The utilization rates of GECL sanctions are much lower than average for smaller borrowers. More than a third of the smallest borrowers did not get pre-approved loans from their lenders. The smaller firms are also less likely to perceive liquidity benefits or business growth, due to GECL, than others, primarily because of the smaller amounts approved.
3. The utilization rates are much lower than average for those zones worst affected by the lockdown (West and East).
4. The manufacturing firms perceive less liquidity benefits, compared to other activities. This may be because their share in GECL disbursed is the lowest, as the previous chapter shows.
5. PSBs offer the lowest borrowing rates, among all lenders. But the utilization rate of GECL among PSB customers is the lowest as compared to other MLIs.

Sample Selection Process

NCGTC gave us a dataset of almost 3 lakh MSME and other business enterprises. In order to have a fair representation in the sample, the following steps were carried out:

- As a first step, the important variables were identified as Zone (Based on States in the East, West Central, North and South of India), SSI_Unit_Type, Type_of_Activity, MLI and Loan_Size
- **Non Mudra loans**
 - a. It was found out that 66% of accounts were having loan size upto Rs. 10 Lakh. Hence the data was divided into 2 groups – Upto Rs. 10 Lakhs and Above Rs.10 Lakhs. The total sample size required for survey was fixed at around 1500. Hence it was decided to extract 70% records from first group of loan size upto 10 Lakh and 30% records from second group of loan size above 10 Lakh. (1050 and 450 respectively.)
 - b. The Member Lending Institutions (MLIs) were mostly concentrated in PSBs (85%) and Private Sector (14%). Less than 1% accounts (0.9%) represented Foreign Banks, NBFCs and Small

Finance Banks. Hence it was decided to consider the entire data of FBs, SFBs and NBFCs separately for the survey.

- c. For the data of loan size Upto Rs.10 lakh, first leg of stratified random sampling was done to find out total number of accounts in the combination of Zone, SSI_Unit_type, Type_of_Activity and MLI. Using a small macro-program, in each of the combination above, the data was extracted in the same proportion as that of the population. E.g. If 3.6% accounts in the population belong to Central Zone, MICRO units, Retail Trade activity and Public Sector Banks, 38 accounts (3.6% of 1050) were selected for the sample. This process was repeated for all combinations for the sample creation.

The same method was used for the second group of data where loan size was above 10 Lakh.

- **Mudra Loans**

The sample of 1500 Mudra Loans was also selected using the same method as described above.

Profile of Randomly Selected Survey Respondents

A total of 1948 MSMEs and other business enterprises eligible for the ECLGS were surveyed. 1857 respondents were obtained from the NCGTC population data and it was possible to map these respondents with the NCGTC database of GECL approved customers. The remaining 91 customers were directly contacted based on banks' database of GECL customers.

The following tables provide the profile of 1857 ECLGS Survey Respondents who were mapped to the NCGTC database. As can be seen, the sample has a fair representation in terms of

1. Geography.
2. Type of entity.
3. Activity.
4. Loan Size.
5. Mix of MLIs.

The diversity in the sample was obtained through appropriate Stratified Sampling (as described above) to derive the most representative sample from the population data of ECLGS borrowers provided by NCGTC. The tables 3.1 to 3.6 provide the distribution of survey respondents across various parameters.

MLI Category	No. of Respondents	% of Respondents	Share of Disbursed Amt.
FB	1	0.1%	1.6%
NBFC	11	0.6%	4.1%
PSB	1594	85.8%	57.7%
Pvt.SB	204	11.0%	21.1%
SFB	47	2.5%	15.5%
Grand Total	1857	100.0%	100.0%

Table 3.1: Distribution of Survey Respondents by MLI Types

Geographic Zone	No. of Respondents	% of Respondents	Share of Disbursed Amt.
Central	258	14%	9%
East	307	17%	11%
North	609	33%	42%
South	353	19%	20%
West	330	18%	18%
Grand Total	1857	100%	100%

Table 3.2: Distribution of Survey Respondents by Geographical Zone

Unit Type	No. of Respondents	% of Respondents	Share of Disbursed Amt.
MEDIUM	41	2%	6%
MICRO	1345	72%	59%
OTHER BUSINESS ENTERPRISES	308	17%	14%
SMALL	163	9%	21%
Grand Total	1857	100%	100%

Table 3.3: Distribution of Survey Respondents by Unit Types

Type of Activity	No. of Respondents	% of Respondents	Share of Disbursed Amt.
Manufacturing	277	15%	34%
retail trade	1030	55%	45%
Services	550	30%	21%
Grand Total	1857	100%	100%

Table 3.4: Distribution of Survey Respondents by Business Activity

Outstanding Amounts (Rs.)	No. of Respondents	% of Respondents	Share of Disbursed Amt.
1. ≤ 50K	139	7%	0.3%
2. 50K - 5L	954	51%	13.4%
3. 5L - 10L	322	17%	16.2%
4. 10L - 50L	422	23%	53.9%
5. 50L - 1Cr	7	0%	3.0%
6. > 1Cr	13	1%	13.2%
Grand Total	1857	100%	100%

Table 3.5: Distribution of Survey Respondents by Outstanding Amounts

Disbursed Amount (Rs.)	No. of Respondents	% of Respondents	Share of Disbursed Amt.
1. D=0	242	13%	0.0%
2. ≤ 10K	251	14%	0.5%

3. 10K - 50K	433	23%	4.9%
4. 50K - 1L	333	18%	10.4%
5. 1L - 5L	502	27%	47.9%
6. 5L - 10L	80	4%	20.2%
7. > 10L	16	1%	16.2%
Grand Total	1857	100%	100%

Table 3.6: Distribution of Survey Respondents by Disbursed Amounts

Descriptive Statistics for GECL Survey Respondents Loan Amounts

Among the Survey respondents, the average ECLGS approved amount was Rs. 1.64 lakhs, which was approximately 18% of the average loan outstanding and aligned to the scheme requirements. 84% of the ECLGS approved was availed by the respondents but there was a high variation (37%) in ECLGS utilization.

Descriptive Statistics	Total	Average	Standard Deviation
Existing Outstanding Amt (Rs. Lakh)	16781.06	9.04	20.74
GECL Approved Amt (Rs. Rs. Lakh)	3041.90	1.64	3.59
GECL Disbursed Amt (Rs. Rs. Lakh)	2567.26	1.38	2.97
GECL Utilization Rate (%)		84%	37%

Table 3.7: Descriptive Statistics of GECL Amounts in Sample

Analysis of GECL Utilisation Pattern

The Table 3.8 disaggregates the average utilization of the GECL across approved Amounts and demonstrates that the utilization rates are monotonically falling with smaller approved amounts, clearly indicating that for lower GECL approvals, the relevance of the scheme for funding business has been lower for the borrowers and therefore the utilization has been low. The exception is for approved amounts greater than Rs. 10 Lakhs, where the average utilisation rate is low at 75% but for 76% of such borrowers, the utilization rate is 100%.

The Table 3.9 further shows that the percentage share of borrowers who did not avail the approved GECL funds is highest for those who were sanctioned smaller amounts (Column D = 0). The diagonal percentages represent the percentage of borrowers in a given approved category who have availed equivalent amounts.

GECL Approved Amounts	% of Respondents	Share of Approved Amounts	Utilization Rate
1. ≤ 10K	12%	0.5%	76%
2. 10K - 50K	30%	5%	80%
3. 50K - 1L	22%	11%	83%
4. 1L - 5L	31%	47%	86%
5. 5L - 10L	5%	19%	91%
6. > 10L	1%	18%	75%
Grand Total	100%	100%	84%

Table 3.8: GECL Utilization Pattern among Survey Respondents

% of Respondents	Disbursed Amounts						
	1. D=0	2. ≤ 10K	3. 10K - 50K	4. 50K - 1L	5. 1L - 5L	6. 5L - 10L	7. > 10L
1. ≤ 10K	19%	81%	0%	0%	0%	0%	0%
2. 10K - 50K	16%	6%	78%	0%	0%	0%	0%
3. 50K - 1L	12%	4%	1%	82%	0%	0%	0%
4. 1L - 5L	9%	3%	0%	0%	87%	0%	0%
5. 5L - 10L	8%	1%	0%	0%	1%	90%	0%
6. > 10L	24%	0%	0%	0%	0%	0%	76%

Table 3.9: GECL Utilization Pattern among Survey Respondents

From the Table 3.10 we see that the utilization rate of the GECL sanctions was higher for those respondents whose business increased during the lockdown as compared to those who saw an adverse impact of the lockdown. This implies that market demand plays an important role in the availment of the GECL and that while the additional credit provided may be temporarily utilized to ease liquidity shortfalls, additional credit to entities which are resuming business post lockdown will definitely enhance growth prospects.

Lockdown Impact on Business	Share of Approved Amounts	Utilisation Rate
Decreased	94%	86%
Increased	6%	92%

Table 3.10: GECL Utilization Pattern for Different Business Impact of Lockdown

Table 3.11 shows that first, a very small share of the GECL approvals have been made at the lowest interest rates (<7.5%) and the highest share of GECL loan approvals has been within the interest rate band of 8.0 – 9.0%. It further shows that larger GECL approval limits have been made at higher interest rates. Finally, as is expected, the utilization of GECL has been highest (96%) for the customers given loans at the lowest interest rates. However, the larger borrowers (with bigger GECL approvals) have also utilised higher proportions of their loan amounts, albeit at higher interest rates.

Interest Rates (%)	% of Respondents	Share of Approved Amounts	Avg. Approved Amount per Borrower (Rs.)	Utilization Rates
< 7.5	5%	2%	60894	96%
7.5 - 8.0	43%	23%	86262	78%
8.0 - 9.0	40%	45%	185245	81%
≥ 9.0	12%	30%	421993	93%

Table 3.11: GECL Utilization Pattern for Different Interest Rate Bands

The Table 3.12 shows the variation in GECL utilization across zones. The businesses from Western and Eastern zones exhibit the lowest utilization rates.

Zone	% of Respondents	Share of Approved Amt.	Utilization Rate
Central	14%	9%	85%
East	17%	11%	80%
North	33%	40%	88%
South	19%	18%	91%
West	18%	21%	73%
Grand Total	100%	100%	84%

Table 3.12: GECL Utilization Pattern among Survey Respondents across Zones

The Table 3.13 demonstrates that the while public sector banks had sanctioned 58% of the GECL to the respondents, the utilization rate for PSB sanctioned GECL was relatively low at 83% as compared to customers of private sector banks and small finance banks. Thus, while public sector banks were more prolific in approving the GECL, at the lowest possible rates, they had sanctioned relatively smaller per customer limits, and their borrowers were either unable to or unwilling to drawdown the additional funds. The NBFCs on the other hand had sanctioned larger per customer limits, but, possibly due to higher interest rates, the utilization rate of GECL sanctions by NBFCs was the lowest at 47%.

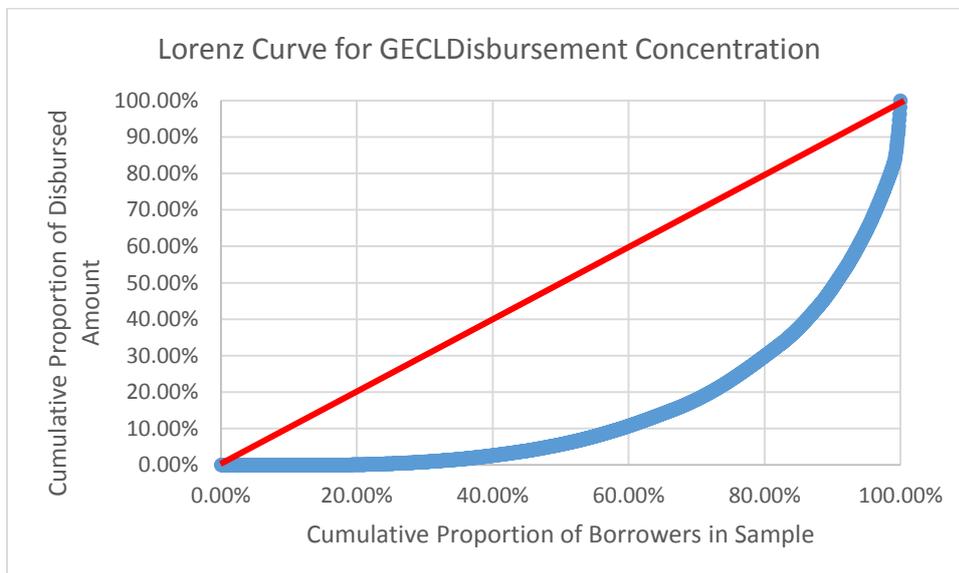
MLI	% of Respondents	Share of Approved Amts	Average Approved Amount per Customer (Rs.)	Utilisation Rate
FB	0.1%	1%	4117817	100%
NBFC	0.6%	7%	2061610	47%
PSB	85.8%	58%	111575	83%
Pvt.SB	11.0%	19%	287450	92%
SFB	2.5%	13%	870298	97%
Grand Total	100.0%	100%	163807	84%

Table 3.13: GECL Utilization Pattern among Survey Respondents across MLI Types

Concentration of ECLGS Disbursements

In view of the wide variation in patterns of utilization, we wanted to study how equitable the overall disbursement is. The results are worrisome, to say the least.

The Lorenz Curve (Graph 3.1) and Gini Co-efficient were used to measure the equality of disbursement amount distribution across ECLGS borrowers. As can be seen from the graph, the red diagonal represents the (45°) line of equality, that is, where the disbursements would be equally distributed across borrowers. For instance, along the 45° line, 20% of the borrowers get 20% of the cumulative disbursements, 50% get 50% and so on. However, the actual Lorenz Curve exhibits strong convexity, indicating that larger proportions of the ECLGS borrowers received smaller GECL loan amounts. For instance, it is clear that 80% of the borrowers get only 30% of the disbursed amount, while the balance 20% get 70% of the sum disbursed. The corresponding Gini Coefficient value is 84.6%, which is indicative of a fairly high degree of concentration of GECL disbursements among a limited proportion of borrowers. The disbursement Gini Coefficient of the representative sample of 20,097 MSME and other businesses drawn from NCGTC data is 85.7%, indicating that the population disbursement concentration is as high as that of the surveyed sample.

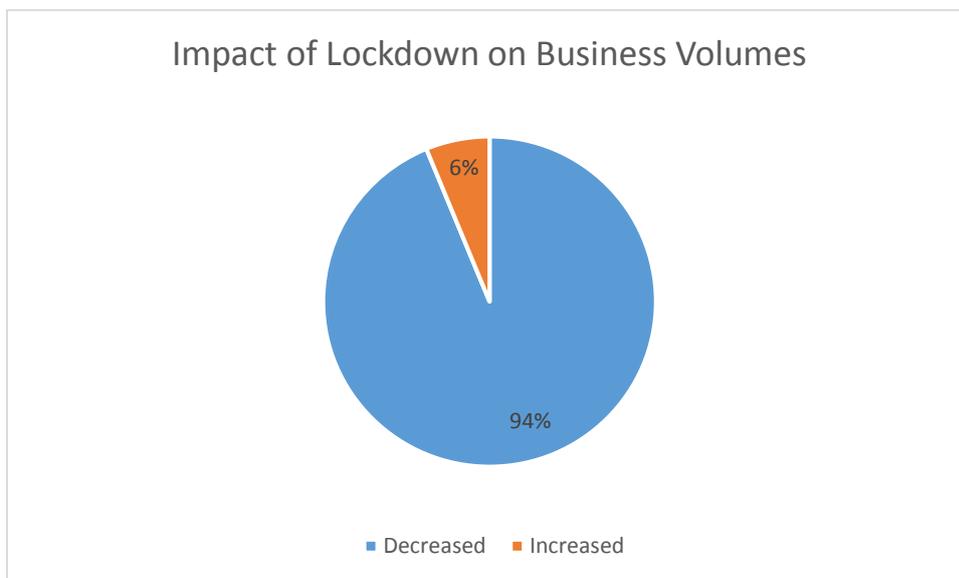


Graph 3.1: Lorenz Curve for Concentration of GECL Disbursements

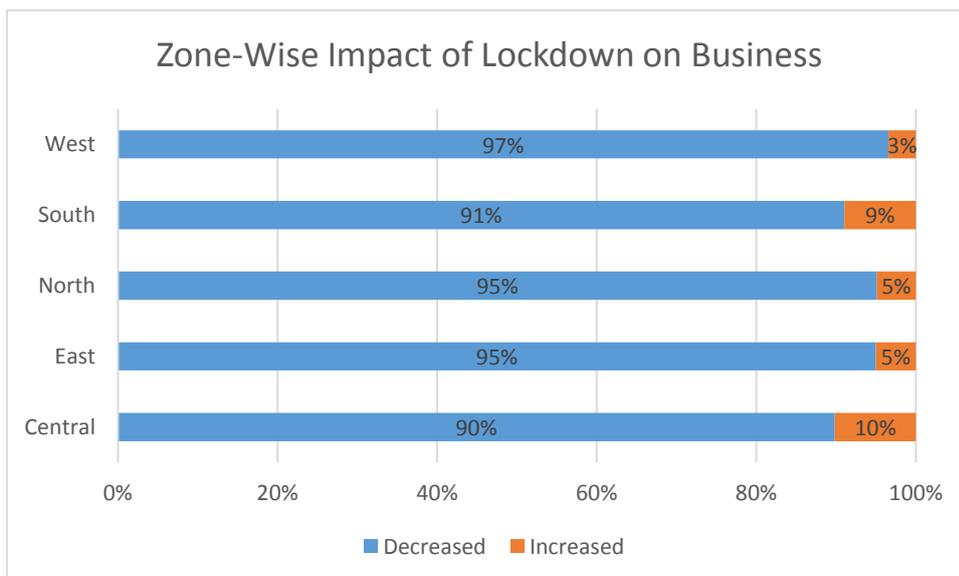
Analysis of Impact of the ECLGS

Impact of the Covid-19 related Economic Lockdown on the Business Volume

As shown by Graph 3.2 and 3.3, 94% of the overall respondents had seen a decrease in their business volumes as a consequence of the lockdown. The severity of lockdown on business varied across states and was highest (97%) for respondents from Western Zone (Maharashtra, Gujarat, Rajasthan and Goa). Relatively fewer respondents from some of the Central and Southern States were adversely impacted due to the initial lockdown. As seen earlier, the Western and Eastern zones had the lowest GECL utilisation rates. Perhaps, due to greater lockdown severity, such firms were not in a position to utilize the amounts approved.



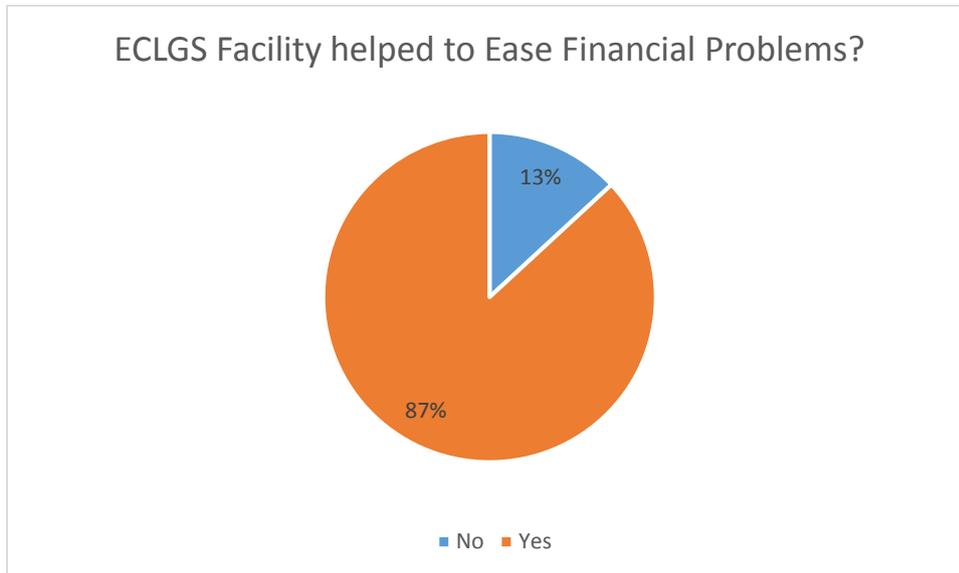
Graph 3.2: Impact of Lockdown on Business Volumes



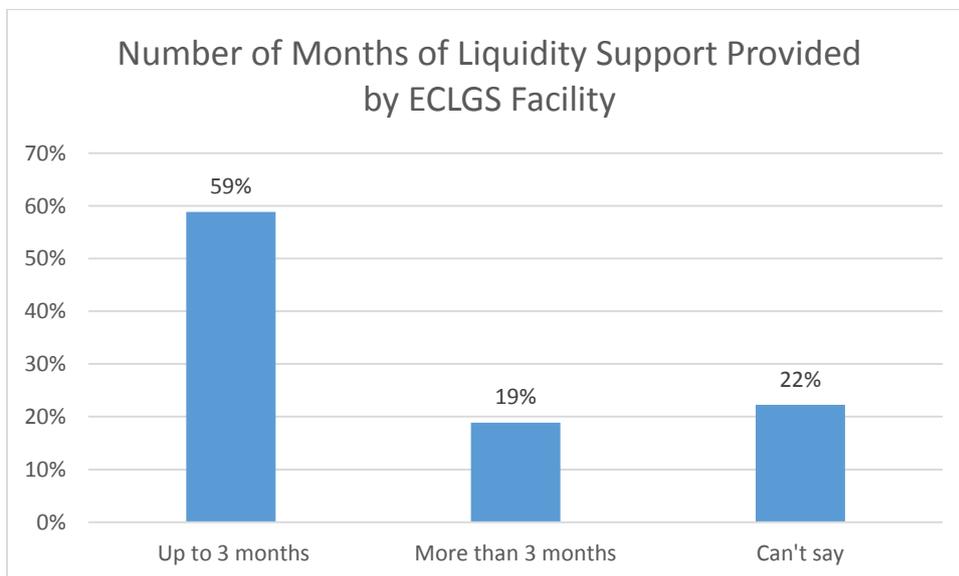
Graph 3.2: Impact of Lockdown on Business Volumes by Geographical Zones

Benefit of ECLGS in Easing Financial Problems

“Easing of Financial Problems” is proxy indicator for better access to Liquidity with the scheme. As shown in Graphs 3.3 and 3.4, 87% of all the respondents said that the ECLGS facility had helped to ease their short term financial problems. 59% felt that the loan would sustain their business requirements only in the short run (upto 3 months) and a much smaller proportion (19%) believed that it would ease liquidity problems beyond 3 months.



Graph 3.3: Impact of ECLGS on Easing Financial Problems



Graph 3.4: Number of Months of Liquidity Support provided by ECLGS Facility

As shown in Tables 3.14 to 3.16, for borrowers who had availed a smaller ECLGS loan, the short term liquidity benefit was relatively lower than those who had availed a larger ECLGS loan. This was further substantiated by the fact that a higher proportion (95%) of the Medium MSME unit respondents saw a liquidity benefit of the ECLGS loan as compared to only 87% of the Micro and Small unit respondents. We have seen earlier that the utilisation rates are also lower for smaller borrowers. This means that the liquidity benefits may not be enough for such firms to avail small approved amounts.

Furthermore, fewer smaller borrowers believed that the ECLGS would support their business beyond 3 months as compared to the larger borrowers. The uncertainty regarding period of liquidity support provided by GECL was much higher for borrowers who availed smaller amounts.

Across Activity type, marginally fewer manufacturing units saw liquidity benefits of GECL as compared to retail trade and services. This may be due to the low share of manufacturing activities, as pointed out in Chapter II, in the GECL disbursed by banks and NBFCs. This may have broader economic consequences.

GECL Disbursed Amt.	GECL Eased Liquidity Problems		No. of Months of Liquidity Support Provided by GECL		
	Yes	No	Upto 3 months	More than 3 months	Can't say
≤ 10K	81%	19%	61%	13%	26%
10K - 50K	85%	15%	62%	12%	25%
50K - 1L	91%	9%	59%	22%	19%
1L - 5L	86%	14%	57%	23%	19%
5L - 10L	87%	13%	56%	28%	15%
> 10L	88%	13%	25%	75%	0%

Table 3.14: Liquidity Ease by Disbursement Amounts

Unit Type	GECL Eased Liquidity Problems		No. of Months of Liquidity Support Provided by GECL		
	Yes	No	Upto 3 months	More than 3 months	Can't say
MICRO	86%	14%	59%	18%	23%
SMALL	84%	16%	60%	23%	17%
MEDIUM	95%	5%	49%	32%	19%
OTHER BUSINESS ENTERPRISES	86%	14%	61%	19%	20%

Table 3.15: Liquidity Ease by Unit type

Activity Type	GECL Eased Liquidity Problems		No. of Months of Liquidity Support Provided by GECL		
	Yes	No	Upto 3 months	More than 3 months	Can't say
Manufacturing	83%	17%	65%	20%	15%
retail trade	87%	13%	58%	19%	23%
Services	84%	16%	59%	18%	23%

Table 3.16: Liquidity Ease by Activity Type

As shown in Table 3.17, the respondents from the Western states, which had felt the highest severity of the lockdown were the most optimistic about the GECL scheme in easing their financial problems but also believed that the liquidity support from GECL would sustain only for a short period upto 3 months.

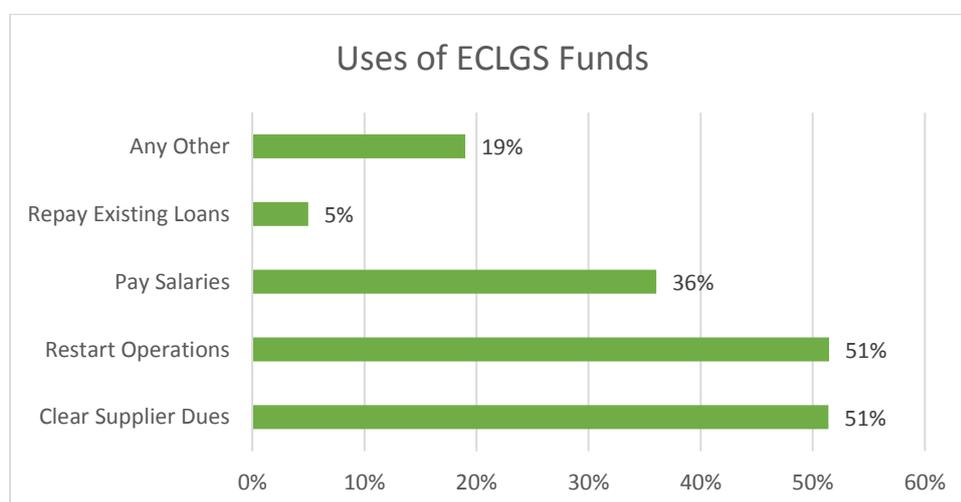
Zone	GECL Eased Liquidity Problems		No. of Months of Liquidity Support Provided by GECL		
	Yes	No	Upto 3 months	More than 3 months	Can't say
Central	91%	9%	51%	28%	21%
East	88%	12%	35%	27%	38%
North	81%	19%	66%	15%	19%
South	79%	21%	58%	21%	20%
West	95%	5%	77%	11%	12%

Table 3.17: Liquidity Ease by Zones

Uses of GECL Funds

As shown in Graph 3.5, overall, GECL funds were most likely to be used to restart operations and clear dues to suppliers.

While restarting operations using GECL funds post Covid lockdown was a uniform concern across activities and borrower size, clearing supplier dues and payment of salaries was increasingly of greater relevance for borrowers who obtained larger funds under ECLGS and for manufacturing units, as shown in Tables 3.18 and 3.19. Since manufacturing units are also likely to be more labour intensive, payment of salaries is necessary for restart of operations. In contrast, since services firms are less dependent on suppliers and workers, by design, their focus is on restart of operations.



Graph 3.5: Application of GECL Funds

Activity	To Clear Dues to Suppliers	To Restart Operations	To Pay Salaries	To Repay Existing Loans	Any Other
Manufacturing	53%	47%	46%	5%	14%
retail trade	49%	47%	30%	4%	18%
Services	38%	47%	31%	5%	20%

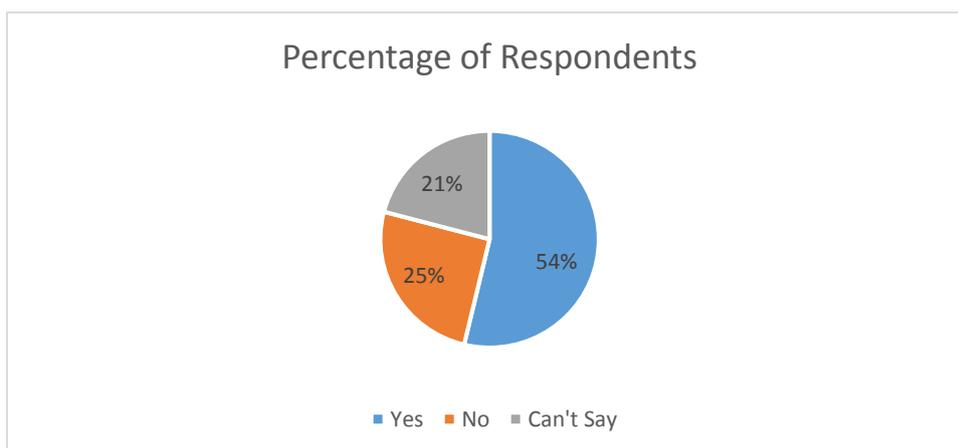
Table 3.18: Application of GECL Funds by Activity Type

Disbursed Amts.	To Clear Dues to Suppliers	To Restart Operations	To Pay Salaries	To Repay Existing Loans	Any Other
≤ 10K	30%	40%	20%	3%	18%
10K - 50K	41%	53%	26%	4%	19%
50K - 1L	56%	52%	38%	6%	18%
1L - 5L	55%	47%	45%	6%	17%
5L - 10L	71%	39%	43%	3%	19%
> 10L	81%	38%	50%	6%	19%

Table 3.19: Application of GECL Funds by Disbursement Amounts

Benefit of ECLGS in Improving Business Volumes and Growth

As shown in Graph 3.6, 54% of the respondents believed that the GECL scheme would help to improve business volumes in the longer term. This was significantly lower than the proportion which felt that GECL scheme would ease short term financial problems (87%). Furthermore, the uncertainty of the long term growth impact of GECL was also fairly high (21%). This suggests that most respondents may use GECL for liquidity support, rather than business growth.



Graph 3.6: Business Growth Benefit of GECL

More of the entities which received larger disbursements amounts under ECLGS were optimistic about the long term growth benefits of the scheme (Table 3.20).

Will Availment of GECL Improve Business Volumes			
Disbursement Amounts	Yes	No	Can't Say
≤ 10K	46%	32%	21%
10K - 50K	42%	36%	25%
50K - 1L	42%	33%	25%
1L - 5L	62%	20%	17%
5L - 10L	58%	22%	20%
> 10L	59%	17%	24%

Table 3.20: Business Growth Benefits of GECL by Disbursement Amounts

Respondents from the Eastern States were the most enthusiastic about the growth benefits of the GECL. Respondents from the Western states, which had seen the most adverse impact of the

Lockdown, were the most uncertain and least optimistic about the business growth impact of the GECL (Table 3.21).

Will Availment of GECL Improve Business Volumes			
Zone	Yes	No	Can't Say
Central	52%	35%	13%
East	75%	12%	12%
North	49%	25%	25%
South	43%	36%	21%
West	46%	25%	29%

Table 3.21: Business Growth Benefits of GECL across Zones

Analysis of Lockdown Severity and Liquidity and Growth Benefits of GECL Across States

Rank correlation analysis was conducted across states based on the percentage of respondents who had seen an adverse impact of the Lockdown, percentage of respondents who perceived liquidity benefits of GECL and percentage of respondents who had perceived business growth benefits of GECL. The results are given in Table 3.22.

In general, there was a weak but positive correlation between liquidity and business growth benefits of GECL across States (0.43).

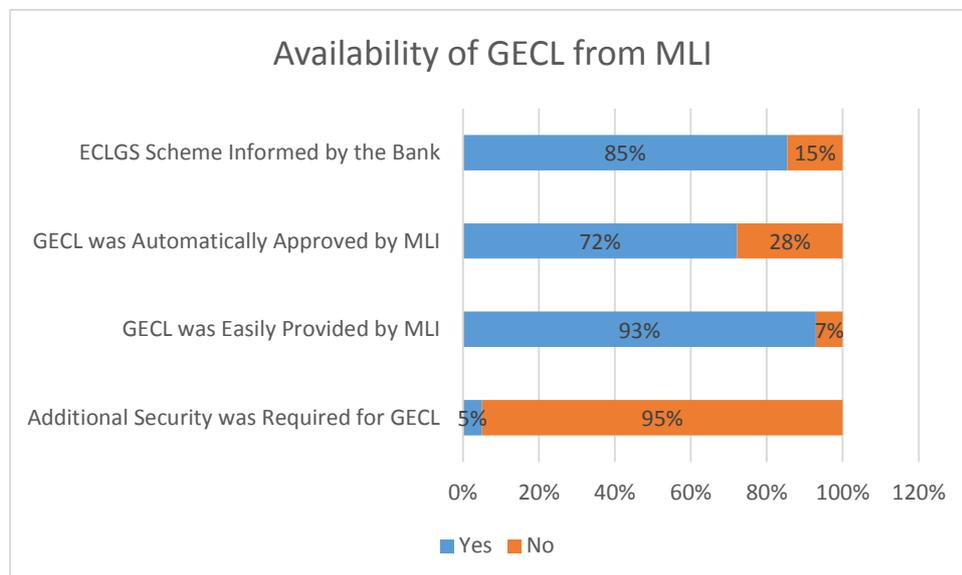
A positive correlation of 0.46 for adverse impact of lockdown and liquidity benefit of GECL across States implied that for the States which had felt the lockdown impact more severely, the GECL scheme had provided larger liquidity benefits whereas a close to zero correlation of -0.06 for lockdown impact and growth impact of GECL implied that for there was no relationship between the severity of lockdown and the prospect of GECL providing a business growth benefit.

	Adverse Impact of Lockdown	GECL Beneficial for Liquidity	GECL Beneficial for Business Growth
Adverse Impact of Lockdown	1.00	0.46	-0.06
GECL Beneficial for Liquidity		1.00	0.43
GECL Beneficial for Business Growth			1.00

Table 3.22: Rank Correlation of Adverse Business Impact of Lockdown, Liquidity Benefit of GECL and Business Growth Benefit of GECL Across States

Ease of Getting GECL Approval and Disbursement from MLIs

As shown in Graph 3.7, while 85% of the respondents stated that their MLI informed them about the ECLGS scheme, only 72% obtained automatic approval for the GECL loan from their MLI. The GECL loan process was fairly easy for the majority (93%) of the respondents. However, 5% of the respondents stated that they were asked to provide additional security to avail the GECL facility.



Graph 3.7: Ease of GECL Availability

There was no significant difference between Public and Private sector bank customers in terms of automatic approval (71% versus 69%) and ease of availability (92% versus 93%), but the NBFCs and Small Finance Banks had been relatively more proactive in approving the GECL facility (91% and 79%) and providing it smoothly to their customers (100% and 94%); as shown in Table 3.23.

9% of the private sector bank customers had been asked for additional security as compared to 5% of public sector bank customers

MLI	Scheme Informed by MLI?		GECL Preapproved by MLI?		GECL Easily Available from the Bank		Additional Security Asked by MLI?	
	Yes	No	Yes	No	Yes	No	Yes	No
FB	100%	0%	100%	0%	100%	0%	0%	100%
NBFC	91%	9%	91%	9%	100%	0%	100%	0%
PSB	81%	19%	71%	29%	92%	8%	95%	5%
Pvt.SB	79%	21%	69%	31%	93%	7%	91%	9%
SFB	81%	19%	79%	21%	94%	6%	93%	7%
Grand Total	81%	19%	71%	29%	93%	7%	95%	5%

Table 3.23: Ease of Availability of GECL by MLI Type

Across Loan size categories (Table 3.24), relatively fewer of the smallest borrowers were informed or given pre-approved GECL by their MLI. The larger borrowers on the other hand faced more difficulty in obtaining the GECL loan and more were asked for additional security as compared to the other categories.

Loan Size (Outstanding Amount)	Scheme Informed by MLI	GECL Preapproved by MLI		GECL Easily Available from the MLI		Additional Security Required by MLI	
	Yes	Yes	No	Yes	No	Yes	No
≤ 50K	75%	67%	33%	92%	8%	7%	93%
50K - 5L	81%	74%	26%	94%	6%	4%	96%
5L - 10L	85%	80%	20%	92%	8%	5%	95%
10L - 50L	78%	66%	34%	92%	8%	7%	93%
50L - 1Cr	86%	71%	29%	100%	0%	14%	86%
> 1Cr	77%	77%	23%	77%	23%	8%	92%
Grand Total	80%	73%	27%	93%	7%	5%	95%

Table 3.24: Ease of Availability of GECL by Disbursement Amount

Summary

In this chapter, we studied the survey responses from 1948 MSMEs and other business enterprises. There is clear evidence that GECL is easy to obtain and preferred as a liquidity support rather than as a source of funds for business growth. However, the unequal distribution of disbursement may defeat the purpose of the ECLGS.

CHAPTER V

EMPIRICAL ANALYSIS OF MSME RESPONSES

In Chapter III, we analysed the qualitative responses by 1948 MSME borrowers, to two important questions: Whether the GECL will help them (i) overcome financial problems (a proxy for improvement in short-term liquidity conditions) and (ii) increase business volume (a longer-term view on business growth). The expected answer to both these questions is either **Yes** or **No**, which is qualitative in nature. In this chapter, we make an attempt to use such qualitative explanatory variables, to capture the impact of GECL on business growth. We also try to link the two qualitative responses – whether those who feel that the GECL would ease liquidity problems also expect the scheme to improve business volumes. Since we use binary explanatory and dependent variables (Yes/No or 1/0), in our models, we exclude those responses which are uncertain (i.e. **Can't Say**). Hence, our sample size of 1466 responses, in this chapter, is smaller than that in Chapter III. But, before we discuss our models and results, it is important to understand the concept of dummy variables which we have used in our regression equations.

The main results of this chapter are as follows:

1. A percentage increase in disbursement is likely to increase business volumes across the board. It is more effective for those firms who would otherwise not have perceived any positive impact of GECL on business growth. As explained in Chapter III, these are the smaller borrowers or those worst hit by lockdown.
2. As the likelihood of easier liquidity and the amount of disbursement increase, with GECL, the probability of a positive outlook on business growth also increases.

Dummy Variables

Dummy variables take values of 1 and 0 and allow the analyst to include qualitative responses in regression models. For example, those who said the GECL would improve business volumes get a value of **1** and the others (i.e. those who feel that it won't) get a value of **0**. In other words, Dummy Variables classify the data into different subgroups, so that regression equations can be run on them. If the impact of the qualitative variable is statistically significant, either the intercept coefficient and/or the slope coefficient, in the equation, will change. The logic will become clearer as we proceed.

Model 1:

Our first model, which tries to predict business growth in future, is as follows:

$$\ln(\text{sales}) = \alpha_1 + \alpha_2 D + \beta_1 \ln(\text{DBR}) + \beta_2 D \ln(\text{DBR}) + \beta_3 (\text{Empl}) + \beta_4 (\text{size}) + \beta_5 (D\text{size})$$

Let us explain the equation step by step. On the left hand side, we take projected sales turnover as a dependent variable. The figures are from 31st March 2020. It would have been ideal if we had got the sales figures, at the time the GECL was disbursed. Since such data is not available, we use the values as on 31st March 2020 (provided in the sample) as a proxy. There are two ways to justify this assumption. First, if the GECL was disbursed on 31st March itself, instead of a lag, what impact would it have on future sales? Second, the sales figures are annual and would change little in less than a quarter. In particular, during the Covid-19 pandemic, it is not possible to predict whether business will increase or decrease. Hence, we assume that sales do not change, on the date of disbursement of GECL, from the level as on 31st March 2020.

The variable *D* is a dummy. It takes a value of 1 for those who said **Yes**, when asked whether GECL would increase business volume, and a value of 0, for those who said **No**. If its coefficient is positive, we infer that those who said **Yes** can expect business growth, relative to those who said **No**. The variable *DBR* captures the disbursed amount. The variable *Empl* captures the number of employees. The variable *size* captures the ratio of DBR to turnover. We expect the coefficients of *DBR*, *Empl* and *size* to be positive, i.e. an increase in any of these quantities should increase sales. If the coefficients of the interaction terms are positive, it means that those firms who said **Yes** can expect higher business volumes, relative to the reference group (who said No), when DBR or size increases.

The natural logarithmic (ln) form captures percentage changes. Since we compare various types of firms with different sizes, the results are comparable when expressed in terms of percentage changes. In particular, the relationship between ln(sales) and ln (DBR) [or ln(size)] reflect the elasticity of sales w.r.t the two explanatory variables – the percentage change in sales for a 1% change in DBR or size.

The results of the regression are as follows:

lsales	Coef.	P > t
D	2.342639	0.015
employees	0.019369	0.031
size	-4.08E-07	0.000
ldbr	0.57364	0.000
Dldbr	-0.19504	0.022
Dsize	-3.05E-06	0.000
_cons	7.871205	0.000

Table 5.1: Regression results

ANOVA				
Source	SS	df	MS	Number of Observation =1466
Model	2011.219	6	335.2032	F(6,1459) = 128.52
Residual	3805.472	1459	2.608274	Prob>F =0
Total	5816.691	1465	3.970438	R-squared = 0.3458
				Adj R-squared = 0.3431
				Root MSE = 1.615

Table 5.2: ANOVA

All the coefficients are statistically significant (at the 5% level) and the R^2 is also satisfactory. It means that the model has predictive power. Since the coefficient of *D* is positive, it means that those who said **Yes** can expect 2.34% higher business volume, from GECL, than those who said **No**. The positive coefficient of *LDBR* implies that a 1% increase in DBR will lead to a 0.57% increase in future sales. However, the coefficient of *DLDBR* is negative. It means that, those who said **Yes** can expect a 0.19% lower growth in business volumes, relative to the reference group, with a 1% rise in DBR. In other words, an increase in DBR is likely to have a stronger impact on those borrowers who feel that their business volumes will not grow. As we saw, in Chapter III, these are likely to be the smallest firms and those most severely hit by the lockdown. Hence, the net impact on sales, for those who said YES, is relative business growth of 2.15% (= 2.343 – 0.195). In a similar vein, the net impact of a 1% rise in DBR is a 0.38% (= 0.57 – 0.19) growth in business, for those who said **YES**. If one more person is employed, sales will increase by 0.02%. The coefficients of *size* and *Dsize* are miniscule and do not affect our analysis or results.

Model 2

This is a probit model, through which we want to know whether an increase in DBR increases the probability of saying YES to a rise in business volumes. Or whether those who feel that the GECL solves financial (i.e. liquidity) problems are also more likely to concur that it will help increase sales in future. The dummy for the dependent variable (Yes to sales growth) is DB while the dummy for the independent variable (Yes to ease of liquidity) is DF. The results are as follows:

db	Coef.	P> z
ldbr	0.0529778	0.016
intrate	-0.051567	0.382
employees	0.0021915	0.480
lsales	0.0434205	0.027
_cons	-0.7388793	0.110
Sensitivity	74.68%	
Specificity	39.66%	

Table 5.3: Probit Model without financial dummy

The table shows that a 1% increase in DBR increases the probability of saying Yes to Business Growth. Likewise, a 1% increase in past sales will also make respondents more optimistic about future business growth. Both results are significant at the 5% level. The sensitivity value implies that 74.68% of those who believe in the regression relationship will increase business have been correctly identified by the model. In contrast, the specificity value means that almost 40% of those who don't believe in a positive relationship between DBR and business volume have been correctly identified. The inclusion of the Financial dummy (DF) improves model performance.

db	Coef.	P> z
df	1.304669	0.000
ldbr	0.047697	0.028
intrate	-0.02926	0.633
employees	0.004418	0.151
lsales	0.049541	0.014
_cons	-2.10344	0.000
Sensitivity 89.35%		
Specificity 31.61%		

Table 5.4: Probit model with financial dummy

In this model, DBR and Sales have a positive impact, at the 5% level of significance. The sensitivity value shows that 89.35% of those who thought that GECL would ease liquidity problems and improve business have been identified by the model. However, 31.61% of those who do not believe that better liquidity will lead to business growth have been identified by the model.

Furthermore, the probit models may also be used to estimate the Probability of saying YES to business growth, for given values of DBR, employment and sales. We illustrate with a few examples below:

DBR	pprobit	pprobit2
14000	0.480901	0.536502
30000	0.509008	0.564472
60000	0.5228	0.571458
83900	0.535294	0.583059
94000	0.580013	0.644176

Table 5.5: Probability of Positive Outlook, for different values of DBR

In column 1, if the DBR is Rs. 14000 (ceteris paribus, i.e. other things remaining the same), there is a 48% chance (column 2) for the respondent to feel that business will grow, if we ignore liquidity benefits. When we consider the financial dummy (i.e. liquidity gains), the chance of optimism increases to 54% (column 3). But, when DBR rises to Rs. 30000, the respondent feels more confident of business growth and the probability increases to 51% (without liquidity gains) and 56% (with financial dummy). The same logic holds for all values of DBR. The inference is that that a positive outlook on business growth is more probable when DBR is higher.

In short, this chapter shows that the marginal benefits of GECL are higher for smaller borrowers and they increase with the quantum of DBR. Hence, there may be a case for differential rates of disbursement, under GECL, depending on firm size.