IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG

An International Open Access, Peer-reviewed, Refereed Journal

Two Decades of Credit Guarantee Scheme (CGTMSE)- An Evaluation Study

Dr. Fareed Ahmed
Former Executive Director
Punjab & Sind Bank

Abstract

Government of India launched Credit Guarantee Scheme (CGS) in 2000 to strengthen credit delivery system and facilitate flow of credit to the MSE sector. It acts as a guarantor and shares potential credit risks to incentivize lending institutions. As the CGTMSE Scheme has completed more than two decades of its existence, an attempt has been made in this paper to analyse CGTMSE scheme to assess its effectiveness and impact. The benchmarks like Outreach, Financial additionality, Economic additionality and Financial sustainability and Cost-Benefit analysis have been analysed to evaluate the success of the scheme. The study concluded that the scheme has made a positive impact in both financial and economic additionality. The study revealed that Cumulatively, as of March 31, 2022, a total of 8893281 accounts have been accorded guarantee approvals for Rs.318123 crore since inception of the scheme and the coverage under CGTMSE Scheme I & II accounted for 9.4% of total MSE units. The Scheme has had a positive impact in terms of incremental lending. It is also found that some levels of economic additionality, primarily through increased turnover, investment, exports and employment growth. It was observed that the scheme has been sustainable meeting its claim settlements from its cash flow. Cost-benefit analysis shown that the scheme had significant social impact in comparison to the associated cost.

Key Words : Guarantee, Financial additionality, Economic additionality and Financial sustainability, Cost-Benefit analysis

I. INTRODUCTION

The Micro, Small and Medium Enterprises (MSME) sector contributes significantly to the economic and social development of the country by fostering entrepreneurship and generating employment opportunities. As per the National Sample Survey (NSS) 73rd round, conducted by National Sample Survey Office, Ministry of Statistics & Programme Implementation during the period 2015-16, there were 63.39 million MSMEs in the country, collectively providing 111.4 million jobs. The sector accounts for 45 per cent of manufactured output and 33 per cent of the Gross Domestic Product (GDP). MSMEs contributed close to 48 per cent of all exports from the country. They have also been helping industrialisation in rural areas, thereby reducing regional imbalances in development.

Though MSMEs in the country are frequently hailed as the backbone of the economy, they usually have severe difficulties in raising money. The majority of MSE units had no access to formal finance. There are several reasons for the low levels of formal credit flow to the MSME sector in India. The key barriers are related to the requirement for collateral or guarantee, cumbersome procedures, and the borrower's limited financial knowledge. MSMEs also face challenges from an inability to adapt to rapidly changing market demands, changing technology and constraints in capacity in relation to knowledge, innovation and creativity. The low level of financial inclusion, limited access to finance, lack of a proper data base, insufficient use of IT, undeveloped sales channels and the lack of research and development are some more reasons leading to the slow growth of MSMEs.

As a result, many MSMEs with economically viable projects cannot obtain the necessary financing from the regular system of financial intermediation. Without credit, the growth of MSMEs is limited as they cannot, for example, set up a large plant that will give them economies of scale, nor can they invest in new technology to become more competitive. The problem is more serious for micro/small enterprises and the first-generation entrepreneurs. The credit flow to MSMEs from the institutional sources is not commensurate with the credit needs of the sector. In order to address this problem, the Government has undertaken various initiatives.

The availability of bank credit without the hassles of collaterals / third party guarantees would be a major source of support to the first-generation entrepreneurs to realise their dream of setting up a unit of their own Micro and Small Enterprise (MSE). Keeping this objective in view, Ministry of Micro, Small & Medium Enterprises (MSME), Government of India launched Credit Guarantee Scheme (CGS) to strengthen credit delivery system and facilitate flow of credit to the MSE sector. To operationalise the scheme, Government of India and SIDBI set up the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE). The public credit guarantee scheme is a tool to reduce the supply–demand gap in MSE finance.

II. OBJECTIVES

As the CGTMSE has completed more than two decades of its existence, a comprehensive monitoring and evaluation of the CGS performance is general necessary to account for the use of public resources, measure the achievement of CGS policy objectives, and improve its operations. An attempt is made in this paper to analyse CGTMSE scheme to assess its effectiveness with the following objectives.

1. To study overview of the Credit Guarantee Scheme
2. To identify benchmarks to assess the impact of the scheme.
3. To study the impact of CGTSME scheme in the development of Micro and Small Enterprises sector based on the identified benchmarks.
4. To analyse the cost benefits of the scheme.

III. REVIEW OF LITERATUE

This section covers a snapshot of the previous studies on the performance of the credit guarantee schemes by various researchers.

Levitsky and Prasad (1989) studied credit guarantee across 27 developed and developing countries; they studied the operational models of credit guarantee systems and also evaluated some of them according to building trust and granting. They observed that the effects of credit guarantee on SMEs and the economies are huge. They boost lending to firms, thus enhance access to finance and also, credit guarantee helps SMEs to minimize their costs of borrowing and it ensures new business formation, development and growth.

Bradshaw (2002) performed an analysis of the California State Loan Guarantee Program to determine its economic impact. By tracking actual employment changes at over 1000 firms over a 6-year period, the author found that employment increased in firms receiving loan guarantees by 40%

Boocock & Shariff (2005) found that some levels of economic additionality, primarily through employment growth, were observed in companies taking part in the Malaysian Guarantee Corporation. They also discussed the difficulties of enhancing economic additionality because banks and governments have differing incentives. Banks are primarily interested in loan repayment, not in building the economy, thus structuring a program to do both becomes difficult.

Riding, Madill and Haines (2007) studied of the Canadian Small Business Fund (CSBF), though focused on loan additionality, estimated the program was responsible for creating approximately 22,000 jobs per year in Canada.

Zecchini and Ventura (2009) adopted a difference-in-difference identification strategy to show that government backed guaranteed firms have higher leverage ratios than non-guaranteed, but otherwise similar firms. In addition, they benefit from lower financing costs.

D'Ignazio and Menon (2013) illustrated that an Italian regional credit guarantee policy was effective in improving financial conditions for the beneficiary firms.

The ability of European public CGSs to generate economic additionality has been confirmed by **Asdrubali and Signore** (2015), among others. Based on an analysis of the Multi-Annual Programme for enterprises and entrepreneurship (MAP) EU SME Guarantee Facility and focusing on Central, Eastern and Southeastern Europe (CESEE) countries, the authors find significantly positive effects of the EU guarantee programme on employment and turnover of the beneficiary firms.

Hennecke, Peter; Neuberger, Doris; Ulbricht, Dirk (2017) quantified the economic and fiscal net benefits of guarantee banks in the new federal states of Germany, where economic development is still lacking behind those in the old federal states. Cost-benefit analyses shown that the economic benefits of the guarantee banks are considerable because of increased production and employment, while the economic costs are negligible. The real GDP increases by about 1.2 euro per euro guarantee each year. In the years 2008 to 2014, there were net fiscal gains of several hundred million euros in the respective federal states.

Brault, J., and Signore, S. (2019) provided a pan-European assessment of EU credit guarantees to SMEs. They investigated the firm-level economic impact of around one million guaranteed loans under the EU MAP and CIP programmes from 2002 to 2016. The results from this meta-analysis shown that guaranteed loans provided by the EIF under the MAP and CIP programmes effectively boosted firm growth and increased survival chances of beneficiaries. They observed that effects are particularly visible for SMEs that are the most likely to face financing constraints.

Maqhawe Zwane (2019) assessed both the financial and economic additionality of the scheme and visibility of the scheme as well as its efficiency in terms of loan approval period and claim processes. The study found that the default rate is high at 44.3 %. The approval period of loan application varies widely, with some respondents reporting a period of less than a month while others reported a period of up to four years. The study concluded that the scheme has made a positive impact in both financial and economic additionality. The SSELGS has had a positive impact in terms of incremental lending and job creation. However, two factors (inefficiency in the scheme's operation and high default rate) threaten the scheme's existence. It is therefore recommended that scheme managers should put measures to curb the default rate and improve the efficiency and visibility of the scheme.

Julien Brault and Simone Signore (2020) build a dataset of fiscal responses to the Covid-19 crisis for a broad range of countries and found that Credit guarantees contribute significantly to the policy mix. Their research on the impact of EU guarantees between 2002 and 2016 supported the view that this policy instrument promotes the growth of Small and Medium-sized Enterprises (SMEs) and reduces bankruptcy rates. They compared the effects of credit guarantee policies within and outside of Europe and found similar positive impacts. They also identified dimensions where the instrument failed to bring significant economic impact.

IBRD (2020) study observed that the Covid-19 pandemic has reduced the funding of many firms, especially small and medium enterprises (SMEs). They also observed that a number of countries in both Western Europe and the EBRD regions have scaled up state credit guarantee schemes to mitigate this urgent liquidity problem and stimulate an economic recovery. It suggested that this instrument, if well designed and implemented, can be an efficient crisis response mechanism, as it relies on the banking sector to channel financing to firms, while safeguarding the soundness of the banking sector by partly assuming the risk of on-lending.

Reham Abu-baker & Mohammad Adeinat (2020) provided an evaluation analysis and impact assessment of credit guarantee system in Jordan by focusing on the Jordanian loan guarantee corporation (JLGC) performance. They found a positive impact on the Jordanian economy. Also they examined the government's initiative in the National Program for Finance and Loan Guarantee to encounter Corona crisis and found that it enhanced the positive impact on the economy. In addition, deeper assessments that consider financial sustainability and economic additionally will be fruitful, as well as an assessment of credit guarantees against alternative policy instruments.

IV. METHODLOGY

The study is explanatory and descriptive one based on secondary data. The study period is 22 years from 2001to 2022. The data have been collected from annual reports of CGTMSE and RBI from their respective websites and analysed by way of tabular and graphical representations.

V. RESULTS AND DISCUSSION

A. Overview of the Credit Guarantee Scheme

A credit guarantee provides risk protection to a lender in case of default by the borrower. The guarantor, typically in return for a fee, commits himself to repay the loan to the lender, in case of the borrower's default. The design of this triangular relationship depends on a number of parameters, the most important being the distribution of risk between guarantor and lender. So, Credit guarantee system is essentially a risk diversification and risk transfer mechanism. It diversifies the risk by offering guarantee to different sectors and geographies. It lowers the risk of the lender by substituting the part / entire risk. It makes lending more attractive by absorbing or sharing the risks associated with lending. An inducement to Lending Institutions in addition to providing an alternative to collateral requirements, the CGS will indirectly enhance underwriting skills by encouraging banks to focus on cash flow analysis. Another benefit for lending institutions would be the reduced risk weightage in terms of capital adequacy. Lending to the MSE sector (up to loan amount of Rs. 7.5 crore – as Regulatory Retail) carries a weight of 75% at present and the guaranteed amount carries zero risk weight. Therefore, as the risk weightage could be reduced by covering under CGS, banks can lend more against their capital.

The main objective of the CGS for MSEs is to catalyse flow of bank credit to first generation entrepreneurs for setting up their MSE units without the hassles of secondary collateral/ third party guarantee. The Scheme is intended to encourage Member Lending Institutions to rely in their appraisal essentially on the viability of the project and the security of primary collateral of assets financed. The other objective is to encourage lenders to avail themselves of guarantee facility to extend composite credit facilities to borrowers comprising both working capital and term loans. The CGS seeks to reassure the member lending institutes (MLIs) that, in the event a covered borrower, who availed collateral free credit facilities, fails to discharge its liabilities to the lender, the Guarantee Trust would make good the loss incurred by the member lender up to a specified percent of the outstanding amount in default. It thus encourages MLIs to appraise credit proposals based on viability of projects rather than merely based on availability of adequate collateral.

Under CGS, there is no relationship between CGTMSE and borrower MSEs. The eligible lending institutions have to register themselves to avail a guarantee from CGTMSE against the credit extended to MSEs. The eligible lending institutions have to execute an agreement with CGTMSE for this purpose and these eligible lending Institutions, on entering with an agreement with CGTMSE, become Member Lending Institutions (MLIs) of CGTMSE. The appraisal of loan applications or appraisal of proposed business is the sole responsibility of the MLIs. Credit rating of loans above Rs.50 lakh is mandatory for the MLIs and should be of investment grade. The MLI has to apply to CGTMSE for approval and it approves guarantee once the scheme parameters are fulfilled. CGTMSE issues guarantee on payment of prescribed fees by the MLIs.

Any collateral / third party guarantee free credit facility (both fund as well as non-fund based) extended by eligible institutions, to new as well as existing Micro and Small Enterprise, including Service Enterprises, with a maximum credit cap of Rs. 200 lakh (Rupees Two Hundred lakh only) are eligible to be covered. Recently, guarantee coverage made eligible to select NBFCs and Small Finance banks and Scheduled Urban Cooperative banks.

The guarantee cover available under the scheme is to the extent of 50%/ 75% / 80% & 85% of the sanctioned amount of the credit facility. The extent of guarantee cover is 85% for micro enterprises for credit up to Rs. 5 lakh. The extent of guarantee cover is 50% of the sanctioned amount of the credit facility for credit from Rs 10 lakh to Rs 100 lakh per MSE borrower for retail trade activity. The extent of guarantee cover is 80%(i) Micro and Small Enterprises operated and/or owned by women; and (ii) all credits/loans in the North East Region (NER) for credit facilities up to Rs.50 lakh. In case of default, Trust settles the claim up to 75% of the amount in default of the credit facility extended by the lending institution for credit facilities up to Rs. 200 lakh.

The lender should cover the eligible credit facilities as soon as they are sanctioned. However as per latest flexibility allowed by CGTMSE, MLIs can now apply for guarantee cover anytime during the tenure of Loan provided the credit facility was not restructured / remained in SMA2 status in last 1 year from the date of submission of application. Guarantee will commence from the date of payment of guarantee fee and shall run through the agreed tenure of the term credit in case of term loans / composite loans and for a period of 5 years where working capital facilities alone are extended to borrowers, or for such period as may be specified by the Guarantee Trust in this behalf.

CGTMSE has introduced a new "Hybrid Security" product allowing guarantee cover for the portion of credit facility not covered by collateral security. In the partial collateral security model, the MLIs will be allowed to obtain collateral security for a part of the credit facility, whereas the remaining part of the credit facility, up to a maximum of Rs. 200 lakh can be covered under the Credit Guarantee Scheme of CGTMSE. It can increase the amount of funds lent to enterprises beyond its own collateral limits, because the guarantee is a form of collateral. CGTMSE will now have a notional charge on collateral security under Hybrid Model. CGTMSE guarantee will be limited to sanction / outstanding less value of collateral security.

As of now, CGTMSE is operating through the following schemes.

- Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGS-I) for banks and financial institutions.
- Credit Guarantee Scheme II for NBFCs
- Credit Guarantee Scheme for PM SVANidhi (CGS- PMS)
- Credit Guarantee Scheme for Subordinate Debt (CGSSD) for Stressed MSMEs

B. **Identification of the benchmarks to assess the impact of the scheme**.

Monitoring and evaluation is a critical component of a CGS to assess whether credit guarantee programmes achieve their scope effectively, as they could help policy makers to improve design elements of these programmes. A robust performance and evaluation framework is a strong testimony of a functioning CGS. Performance metrics against which the added value of the programme is measured, need to be defined clearly. Considering insights gained from the past literature, the following benchmarks viz**., Outreach**- the capacity of the CGS to meet demand for guarantees, impact or additionality, both **Financial additionality** and **Economic additionality** and **Financial sustainability-** the CGS's capacity to contain losses while continually maintaining an adequate capital base relative to its liabilities on a going concern basis and **Cost-Benefit analysis** have been analysed to evaluate the success of the scheme.

1. **Outreach**
    i. Guarantees approved (Number and Amount)
    ii. Geographical coverage of Guarantees (Number and Amount)
    iii. Gender wise coverage of Guarantees (Number and Amount)
    iv. Social Group wise coverage of Guarantees (Number and Amount)

2. **Financial additionality**
    i. Increased volume of credit made available
    ii. Loan size
    iii. Reduction in cost (Rate of Interest) in availing in such credit
    iv. Proportion (%) of credit covered Guarantee to Total credit under MSE portfolio.
    v. Proportion (%) of Guaranteed Credit to GDP

3. **Economic additionality**
    i. Incremental Production / Turn over
    ii. Incremental investment
    iii. Total employment generated directly and indirectly
    iv. Incremental Exports

4. **Financial sustainability**
    i. Leverage Ratio
    ii. Operational cost of the trust with respect to its revenue (Revenue – cost Ratio)
    iii. Claim Payout ratio
    iv. Recovery from Claim Settled accounts

5. **Cost- Benefit Analysis**

The above variables are some of the measurable benchmarks / indicators and these can be used for the impact evaluation.

C. Impact of CGTSME scheme in the development of Micro and Small Enterprises sector based on the identified benchmarks.

1. Outreach

Outreach is the capacity of the CGS to meet demand for guarantees and it is assessed in terms of Number of Guarantees approved, Guarantee amount approved, Geographical coverage of Guarantees, Gender wise coverage of Guarantees and Social Group wise coverage of Guarantees.

i. Guarantees approved (Number and amount)

Cumulatively, as of March 31, 2022, a total of 8893281 accounts have been accorded guarantee approvals for Rs.318123 crore since inception of the scheme. On perusal of annual growth rates, there was negative growth in the number and amount of guarantees approved during the financial years 2016-17 and 2017-2018 because of introduction of Mudra Guarantee through National Credit Guarantee Trustee Company Ltd (NCGTC) in FY 2016. But there has been substantial increase in the number and amount of guarantees approved since FY 2019. A total of 1278134 guarantees were approved for an amount of Rs. 74983 crore during the period of 2 years FY 2019-2020. Further, after Pandemic, Guarantee coverage has increased substantially by approving 4586199 guarantees involving an amount of Rs. 96310 crore during the period of 2 years 2020-2022 which accounted for 51.6% of the number and 30.3% of the amount of guarantees approved since inception of the scheme. This mainly on account of inclusion of NBFCs, Small Finance banks as Member Lending institutions (MLIs), Inclusion of Retail Trade as one of the eligible activities and launching new scheme “Credit Guarantee Scheme for PM SVANidhi (CGS- PMS) and overall increase in the number of MLIs

Table. 1: Details of Guarantees approved during the period 2001-2022

Period	MLIs	Number		Amount Rs. crore)	
	At the end of period	During the Period	Cumulative	During the Period	Cumulative
2001-2005	32	24321	24321	539	539
2006-2010	85	275784	300105	11021	11560
2011-2015	119	1517140	1817245	78886	90446
2016-2018	113	1212703	3029948	56383	146829
2019-2020	126	1278134	4307082	74983	221812
2021-2022	321	4586199	8893281	96310	318122

Source: Annual Reports, CGTMSE and Own computation

ii. **Geographical coverage of Guarantees (Number and Amount) under CGS - I & II**

Out of the cumulative guarantees approved under CGS - I & II since inception of the scheme up to March 2022, the top ten beneficiary states accounted for 3987486 proposals (68% of total proposals of 5859414) involving an amount of Rs. 208672 crore (66.3 % of total amount of Rs. 314884 crore)

Table. 2 : Geographical coverage of Guarantees (Number and Amount) under CGS - I & II (amount in Rs. crore)

States	Up to 2014		2015 -2020		2021		2022		Total	
	Accounts	Amount	Accounts	Amount	Accounts	Amount	Accounts	Amount	Accounts	Amount
Top 10 states	908711	42315	1987392	105062	619338	25188	472045	36397	3987486	208962
NER	77048	2670	108752	4777	18079	1002	22946	1912	226825	10361
Other States	434048	25042	818748	46401	198175	10709	222029	17863	1673000	100015
Total	1419807	70027	151786	2886995	835592	36899	717020	56172	5859414	314884
NER to Total %)	5.43	3.81	3.77	3.15	2.16	2.72	3.20	3.40	3.87	3.29

Source: Annual Reports, CGTMSE and Own computation

The ten states were Maharashtra (498011 proposals involving Rs. 38532crore),Uttar Pradesh (with guarantee cover for 643649 proposals involving an amount of Rs. 30780 crore, Karnataka (458495 proposals involving Rs. 28661 crore), Tamil Nadu, (542290 proposals involving Rs. 27073 crore), Gujarat (221948 proposals involving Rs. 19474 crore), West Bengal (290167 proposals involving Rs. 16652 crore, Madhya Pradesh (311105 proposals involving Rs. 14593 crore), Rajasthan (227544 proposals involving Rs. 11987 crore), Kerala (371742 proposals involving Rs.11016 crore) and Andhra Pradesh (422535 proposals involving Rs. 10192 crore). The states in the North Eastern region accounted for 226825 proposals (3.85%) involving an amount of Rs 10361 crore (3.24%). Other states accounted for the balance of 1673000 proposals involving guaranteed amount of Rs.100015 crore.

iii. Gender wise and Social Group wise coverage of Guarantees

As on March 2022, women beneficiaries covered under CGTMSE accounted for about 14.0 % of total guarantees amount approved. A small percentage of SC/STs were also covered under the scheme. There has been some progress in assisting enterprises owned by women, and SC/ST and this needs to be increased. The researcher could not attempt detailed analysis in respect of these parameters as the information is not available in the public domain for all years.

v. Penetration Rate

As per the National Sample Survey (NSS) 73rd round, conducted by National Sample Survey Office, Ministry of Statistics & Programme Implementation during the period 2015-16,there were 633.83 lakh unincorporated non-agriculture MSEs in the country engaged in different economic activities. As against this number, the cumulative guarantees approved under CGS-I and CGS-II as of March 2022 were 58.59 lakhs indicating 9.24% of coverage of total MSE units. Though the top ten beneficiary states accounted for 39.87 lakh guarantees approved (68 % of total 58.59 lakhs guarantee) against total MSE units of 458.8 lakh, the coverage was 8.7% only, which was less than that of cumulative average of the country as whole. In respect of North-Eastern states (2.27 lakh guarantees against 22.9 lakh MSE units) and the other remaining states (16.45 lakh guarantees against 152.2 lakh MSE units) the cumulative coverage as of March was 9.9% and 10.8% respectively which was above than that of Cumulative average of the country as a whole. Therefore it can be observed that though the number of guarantees approved were more in the top 10 states as a greater number of MSE units are located in these states, the penetration rate was better in NE states and other states.

2. Financial additionality

The exact definition of financial additionality is quite complex, as the term is understood in many ways. For present purposes, additionality will be defined as to incremental credit volumes granted to eligible MSEs and/or credit on more favourable terms to a target group which has confronted difficulties in accessing credit markets or has been charged a high "risk premium" for access to credit markets. On extensive margin effects, financial additionality includes access to credit for MSEs that otherwise would not be able to obtain financing as well as higher loan amounts. On the intensive margin, financial additionality includes more favourable conditions for eligible MSEs in loan size, pricing and maturities, and reduced amount of collateral required to obtain credit.

i. Increased volume of credit made available

The data pertaining to credit availed by the guaranteed units is not available in the public domain. A total sum of Rs 318122 crore was guaranteed by the CGTMSE. Therefore, assuming the average coverage of guarantee @ 75% loan amount, that incremental credit of Rs.423163 crore was made available to eligible MSEs because of CGTMSE scheme.

ii. Loan Size

a) **Guaranteed Loan amount (Loan size slab-wise coverage)**

Loan size-wise analysis of the cumulative guarantee amount approved since inception of the scheme revealed that most proposals approved were in respect of smaller loans. It can be observed that about 41% of the amount guaranteed pertains to loan size below Rs.10 lakh, 23% of the amount guaranteed belongs to loan size between Rs.10 lakh to Rs. 25 lakh, 17% of the amount guaranteed belong to loan size between Rs.25 lakh to Rs.50 lakh, 13% of the amount guaranteed belong to loan size between Rs.50 lakh to Rs.100 lakh and 6 % of the amount guaranteed belong to loan size between Rs.100 lakh to Rs.200 lakh (Table 3).

Table. 3:Slab wise distribution of amount guaranteed under CGS-I &II (amount in Rs. crore)

Sl. No.	Range /period	2001-05	2006-10	2011-15	2016-20	2021	2022	Total
1	Up to 100000	67	656	2339	56811	17428	18072	130298 (41.4%)
2	100001 to 500000	97	2333	18207				
3	500001 to 1000000	102	1788	12398				
4	1000001 to 2500000	273	3210	20719	29283	6585	11326	71396 (22.7%)
5	2500001 to 5000000		1974	13204	22833	5057	11104	54172 (17.2%)
6	5000001 to 10000000		1060	12019	16211	4409	7733	41432 (13.1)
7	10000001 to 20000000				6229	3420	7937	17586 (5.6%)
	Total	539	11021	78886	131367	36899	56172	314884 (100.00)
Average Size per guarantee (Rs. Lakhs)		2.22	4	5.2	5.3	4.42	7.83	5.37

Source: Annual Reports, CGTMSE and Own computation

b)Average size of guaranteed loan

The overall average size of loan amount guaranteed under the scheme has significantly increased to Rs 7.83 lakh during 2022 from the corresponding figure of Rs. 2.22 lakh during the period 2001-05. This can be attributed to the increase in guarantee coverage amount from time to time. However, on cumulative basis since inception, the average size stood at Rs. 5.37 lakh.

Chart 1 : Average Guaranteed Loan Size

iii. Cost of credit (Reduction in cost (Rate of Interest) in availing in such credit

The analysis of the primary data is needed to assess the impact of guarantee scheme on the cost of credit. As this study is based on secondary data, it is difficult to assess the same. However, from the discussions with the bankers, it is revealed that the banks are offering the credit to MSEs at concessional rate of interest as these accounts are collaterally supported by the guarantee. Moreover the rate of interest charged by the bank is reasonable and much less than that of informal sources. Therefore, it can be concluded that the CGTMSE scheme results in reduction of cost for availing credit by MSEs.

iv. Proportion (%) of credit by covered Guarantee to Total credit under MSE portfolio.

The proportion of credit guaranteed under CGTMSE for MSE to the outstanding credit to the MSE has shown increasing trend during the period of 3 years 2020-2022.The credit guaranteed under CGTMSE for MSE stood at Rs.124618 which constitutes about 9.49 % of the existing outstanding Non Food credit to the MSE of Rs.1312705 crore as of March 31, 2022. This needs to be enhanced to an acceptable level of guarantees of about 15 per cent.

Table. 4 : Details of CGTMSE guaranteed amount in total outstanding credit to MSEs (amount in Rs. crore)

Year	Amount outstanding to MSEs as on 31st March	MSE credit % of Non- Food bank credit	Outstanding Guarantees as on 31st March	% CGTMSE's outstanding Guarantee to total amount outstanding to MSEs
2016	847600	12.95	62318	7.35
2017	902000	12.71	67762	7.51
2018	996400	12.96	70310	7.06
2019	1046690	12.12	74330	7.10
2020	1131285	12.28	99492	8.79
2021	1264151	13.08	109955	8.70
2022	1312705	11.09	124618	9.49

Source: Annual Reports, CGTMSE and RBI Website and Own Computation

Proportion (%) of Guaranteed Credit to GDP

The Outstanding volumes of credit guarantees provided by CGTMSE range between 0.39 percent (2019) to 0.53 percent of GDP. As the CGTMSE has been already operational for a long period of about 22 years, the coverage is on the lower side. Considering the contribution and importance of MSEs in the Indian Economy and Keeping in view the outstanding credit of about Rs.13.13 lakhs for MSEs, there is a lot of opportunity to further extend guarantee cover and CGTMSE should aim to have at least a ratio of more than 1 of Outstanding volumes of credit guarantees to GDP.

Table.5: Proportion (%) of Guaranteed Credit to GDP

Year	Outstanding guarantees as on 31st March	Gross Domestic Product (GDP)	Guaranteed Credit to GDP
2016	62318	13771874	0.45
2017	67762	15391669	0.44
2018	70310	17090042	0.41
2019	74330	18899668	0.39
2020	99492	20074856	0.50
2021	88979	19800914	0.45
2022	124618	23664637	0.53

3. Economic additionality

Economic additionality refers to the benefit of obtaining Government guaranteed loans or to their economic impact by creating jobs through improving investment and growth.

i. Incremental Production / Turn over

The turnover is another vital indicator of the development of MSEs. It is estimated that all the units (88.93 lakhs units) together accounted for a total turnover of Rs. 71.99 lakh crore for the year ending March 2022 with an average of Rs.81 lakh per unit.(Table No.) The average Turn over per unit has shown an increasing trend over the period from 2010 to 2022. The average turnover would have been much higher but for guarantee coverage of 30.33 lakh small units of street vendors under PMSVANidhi scheme where the average Loan amount (less than Rs. 0.10 lakh) and Turnover were very less.

Table. 6 : Details of impact of CGTMSE guarantee Scheme

Year / Particulars	2010	2015	2016	2017	2018	2019	2020	2021	2022
Cumulative Guarantees approved Nos)	300105	1817245	2323673	2772744	3029948	3460432	4307082	6590413	8893281
Estimated Turnover of Guaranteed units Rs. Cr	69185	668643	867019	1018285	1215212	2282297	3422643	4558501	7199126
Turnover per Unit (Lakhs)	23.1	36.8	37.3	36.7	40.1	66.0	79.5	69.2	81.0
Estimated Exports of Guaranteed units Rs. Cr	2047	6769	7729	7762	8593	10145	14648	16,541	24,033
Estimated Employment Generation (Nos. in lakhs)	111	76	77	91	100	109	127	132	155
Employment Generation Per Unit Nos.	5.9	4.2	3.3	3.3	3.3	3.1	2.9	2.0	1.7

Source: Annual Reports, CGTMSE and RBI Website and Own Computation

ii. Incremental investment

The data pertaining to investments made by the guaranteed units is not available in the public domain. Therefore, assuming the average coverage of guarantee @ 75% loan amount and Margin for loans @20% , the investment in these 8893281 guaranteed units is estimated at Rs. 5.3 lakh crore

iii. Total employment generated

MSEs play a key role in the generation of employment. It is estimated that the CGTMSE has resulted in generation of employment to 155 lakhs persons since inception of the scheme with an average of 1.7 persons per unit as of March 2022. The average employment generation per unit has shown a decreasing trend over the period from 2010 to 2022. This is because of inclusion of NBFCs as Member lending institutions (whose borrowable accounts are mostly small in nature) under CGSII guarantee scheme from the year 2017 and also coverage of 30.33 lakh small units of street vendors under PM SVANidhi scheme (which are managed by single person) from the year 2021.

iv. Incremental Exports

MSEs play a key role in contribution towards the exports of the country. It is estimated that 88.93 lakh guaranteed units contributed Rs. 24033 crore of exports during the year 2021-22

6. Financial sustainability

Financial sustainability is one of the most important and challenging issues for CGS. Sustainability requires a long-term view accompanied by social objectives. It measures whether CGS can cover the cost of its operating expenses and loan defaults through its cash flows and its ability to meet the potential liabilities. It covers parameters like Leverage Ratio, Operational cost of the trust with respect to its revenue, Claim Payout ratio etc.,

i. Leverage Ratio

Leverage Ratio is the relationship between total outstanding guarantee commitments to the size of its capital. It is defined as a ratio of the potential liabilities of the fund to the equity of the fund. It is critical in the risk management and financial sustainability of CGS and is one of the main reasons for using guarantees as opposed to more direct forms of government financial assistance. The high leverage ratio of CGS indicates an efficient use of limited public funds by allowing government money to have a multiplier effect and reach more beneficiaries. A higher leverage ratio also reflects a markets' trust in CGS ability to honor claims. High leverage achieved by granting a large number of guarantees can theoretically both contribute to sustainability of CGS through higher income from fees and threatens the solvency and credibility of the public backstop through a higher amount of claims. A maximum level of leverage should therefore be specified, which will largely depend on expected fluctuations in income from investment, its administrative expenses and the costs arising from claims besides corpus fund. A maximum leverage in the range of 4-6 times should be appropriate. However, an older CGS like CGTMSE, being a long established scheme, may have a higher leverage ratio in the range of 8-10 (maximum).

Table.7:Leverage Ratio (amount in Rs. crore)

Year	Liability against outstanding guarantees	Corpus fund / Capital	Leverage Ratio Corpus : Liability against outstanding guarantees (times)
2016	45271	3376	13.41
2017	49567	3469	14.29
2018	50660	7216	7.02
2019	55526	8012	6.93
2020	72986	8668	8.41
2021	78924	8740	9.03
2022	109955	8803	12.49

Source: Annual Reports, CGTMSE and RBI Website and Own Computation

The initial corpus fund of the trust of Rs.125 crore was contributed by the settlors, The GoI and SIDBI in the ratio of 80:20 and as per the Trust deed, further contributions to the corpus were to be made in the same proportion. The settlors have agreed to enhance the corpus fund up to Rs. 2500 crore depending on the needs. The corpus fund has been enhanced to Rs.7500 crore during FY 2018. The share of GoI and SIDBI was decided to be Rs.7,000 crore and Rs.500 crore respectively. It was also decided that SIDBI would not make any contributions to the corpus fund beyond Rs.500 crore and any further contributions would have to be made by the GoI only. The leverage ratio was high at 14.29 during the year 2017and it has come down from 2018 due to infusion of capital of Rs. 3690 crore by GOI. However, the leverage ratio again increased and stood at 12.49 as of March 2022. This would require an increase in the corpus maintain a reasonable leverage ratio. The GOI has taken a positive step and announced allocation of Rs. 9000 crore for infusion of capital in the Budget 2023-24.

ii. Operational cost of the trust with respect to its revenue

The ratio of revenue to operational costs is one of the parameters to assess the sustainability of the credit Guarantee Scheme (CGS). It measures whether CGS can cover the cost of its operating expenses and loan defaults through its cash flows.
It should be more than 1 to indicate sustainability.

$$\text{Financial Sustainability} = \text{Revenue/ Costs} \geq 1$$

a) Sources of Revenue

- Guarantee fees: This is core income from the operations of the CGS. CGTMSE collects annual guarantee fee which ranges between 0.65%-2.04% and is mainly contingent on the loan amount and riskiness of the borrowers.
- Returns on financial investments: This is the return generated by CGTMSE on its capital and fees income corpus. As the primary purpose of these funds is to be available, if need for repayment arises, they need to be invested in liquid financial instruments, where the risk is within an acceptable threshold, as decided by the board.
- Other income (recoveries, services, etc.): Other sources of income for CGTMSE are recoveries made on defaulted loans.

b) Cost components of CGS

- Cost of funds: This is the cost of initial capital funds and further capital that CGS may raise from the market. As the CGTMSE is promoted by Government and SIDBI , it does not get factored .
- Operational costs: This includes all administrative expenses of running a CGTMSE, such as general expenses and infrastructure costs.
- Loss on guarantee: This is the payment, including the expected payment, that CGTMSE must make on loans guaranteed to financial institutions.

The Revenue – Cost ratio was higher up to the year 2013 as the amount of loss on guarantee due to claim settlement. The Revenue Cost was less than during the years 2014 and 2015 because the loss on guarantee was more than gross income during both the years. However , the trust has been maintaining the ratio at about one since 2016 indicating the satisfactory position.(Table 8)

iii. Claim Payout ratio.

- **Claim Settlements**

During FY 2021-22, 65,784 number of claims were settled for an amount of Rs. 1,292 Crore. Claims in respect of 33,174 units were settled for an amount of Rs.747 Crore towards the first instalment of claim under CGS-I and for 32,610 units for an amount of Rs.545 Crore under CGS-II during the year. Further, 1764 claims for an amount of Rs 37 Crore were settled towards 2nd / final installment of claim during the year. Cumulatively till 31st March, 2022, CGTMSE has so far settled 3,44,389 number of claims amounting to Rs. 8,315 Crore.(Table 9)

Table. 8 : Details of Revenue-Cost Ratio (amount in Rs. crore)

Year	Gross Annual income	Loss on Guarantee	Operational Expenditure	Gross expenditure	Revenue : Cost Ratio
Upto2010	1199	50	32	82	14.62
2011	407	60	6	66	6.17
2012	576	282	5	287	2.01
2013	972	483	8	491	1.98
2014	789	833	11	844	0.94
2015	936	1108	7	1115	0.84
2016	1036	1021	7	1028	1.01
2017	1159	1126	7	1133	1.02
2018	1368	1315	8	1323	1.03
2019	1701	1608	10	1618	1.05
2020	2006	1912	9	1921	1.04
2021	2174	2073	10	2083	1.04
2022	2358	2322	11	2333	1.01

Source: Annual Reports, CGTMSE and RBI Website and Own Computation

Table. 9 : Details of claim settled (Amount in Rs. Cr)

Year	No. of Claims Settled	Cumulative Claims Settled	Amount Settled	Cumulative Amount Settled
2011	2718	5224	60	110
2012	1894	7118	67	177
2103	3895	11013	170	347
2014	15075	26088	424	771
2015	26183	52271	724	1495
2016	34810	87081	1005	2500
2017	39605	126686	1034	3534
2018	36277	162963	968	4502
2019	38947	201910	817	5318
2020	45198	247108	1002	6320
2021	31497	278605	703	7023
2022	65,784	344389	1292	8315

Source: Annual Reports, CGTMSE and RBI Website and Own Computation

- **Claim Payout Ratio**

Clam Payout ratio can be defined as the ratio between claims settled during the year and the outstanding guarantees at the beginning of the year. It can also be worked out on the basis of cumulative claims settled by the Trust and the cumulative receipts which includes Annual Service /Annual Guarantee Fee receipts, recoveries out of OTS and recoveries passed on by MLIs after first settlement of claim (This practice has been adopted by the Trust for charging Risk based Guarantee fee). The researcher has attempted to calculate claim payout ratio based on both the formulae to assess the impact of settlement of claims.

a) Based on claims settled and the outstanding guarantees

The Payout Ratio is an important indication of a scheme's sustainability. When applications are appropriately assessed and monitored, a reasonable Payout Ratio is possible. As per the academicians, a sustainable scheme should aim to have a Payout Ratio between 2-3 percent. The Trust has been maintaining the payout ratio of 0.7 in the year 2021 to 1.7 in the year 2017 indicating the quality of loan portfolio guaranteed by the Trust.

Table.10 : Details of Payout Ratio

Year	*Outstanding guarantees as on 31st March Rs. Crore	claims Settled Rs. Crore	payout Ratio
2016	62318	1005	
2017	67762	1034	1.7
2018	70310	968	1.4
2019	74330	817	1.2
2020	99492	1002	1.3
2021	88979	703	0.7
2022	124618	1292	1.5

*Data available from year 2016 Source: CGTMSE & Own computation

b) Based on claims settled by the Trust and the receipts

Based on the actual claim settled amount, the payout ratio was as low 25.2% in the FY 2012 and as high as 168.3% in the year 2016. The payout ratio is comparatively low from the year 2019 indicating share of receipts (Annual Service Guarantee Fee receipts, recoveries utilized for purpose of claim settlement has come down during this period. About 48.7% and 74.9% of receipts were used for the claim settlement during 2021& 2022 respectively.

Table. 11 : Payout Ratio based on claims settled and receipts

Year	*Receipts	Claim Settled	Payout Ratio
up to 2010	195	50	25.6
2011	189	60	31.7
2012	266	67	25.2
2013	591	170	28.8
2014	375	424	113.1
2015	496	724	145.9
2016	597	1005	168.3
2017	728	1034	142.0
2018	830	968	116.5
2019	936	817	87.3
2020	1161	1002	86.3
2021	1443	703	48.7
2022	1726	1292	74.9
Total	9534	8315	87.2

Source : Annual Reports of CGTMSE and Own computation

The payout ratio was less than 32 up to the year 2013 and also less than 88 from the year 2019 onwards indicating that the Trust has reported surplus over claim settlement. The ratio was more than 100 between 2104-2018 indicating that the trust has paid more than receipts.

iv. Recovery Rate of Claim settled accounts

During FY 2022, the Trust received Rs.166 crore as recoveries from the MLIs, the post settlement of first claim. The Trust has recovered Rs. 1143crore during the decade 2011-20, out of which, major amount of Rs.1080 crore recovered between FY 2016 2022.

Table.12 :Details of Recoveries made in Claim Settled accounts(amount in Rs. crore)

Year	Amount Settled	Cumulative Amount Settled	Amount Recovered in Settled accounts	Cumulative Amount Recovered	Percentage of Recovery out of settled amount*
2011	60	110	3	3	6
2012	67	177	4	7	3.6
2013	170	347	10	17	5.6
2014	424	771	15	32	4.3
2015	724	1495	31	63	4.1
2016	1005	2500	58	121	3.9
2017	1034	3534	125	247	5
2018	968	4502	178	425	5
2019	817	5318	210	634	4.7
2020	1002	6320	199	833	3.7
2021	703	7023	144	977	2.3
2022	1292	8315	166	1143	2.4
* Amount Settled at the beginning of the year, Source : : Annual Reports of CGTMSE and Own computation					

4. Cost and Benefit analysis of the scheme

Analysis of cost-benefit of the scheme is challenging task in view of data and information constraints. However, an attempt has been made to analyse indirectly the costs and benefits.

Cumulatively, as of March 31, 2022, a total of 88,93,281 accounts have been accorded guarantee approvals for Rs.318123 crore since inception of the scheme and the Trust has earned Gross income of Rs.16549 crore(after meeting operating and other administrative expenditure of about Rs. 131 crore) and core income (excluding the interest earned on investments) of Rs.9,534. The income from investments has been excluded from the total income to assess costs and benefits by comparing costs and core income from the operations of the trust to assess the viability and sustenance of CGS. The core operating income constitutes about Rs. 9,403 crore after meeting operating and other administrative expenditure of about Rs. 131 crore. Further, the claim settlement amount has been adjusted against provisions held, which is being made based on actuarial valuation of liability of the Trust. Therefore, both settled amount and provision made during this period was considered independently for arriving surplus or burden on the trust as a result of operations of the scheme. Cumulatively, as of March 31, 2022, though a total of 3,44,389 accounts involving an amount of Rs.8315 crore have been settled since inception, an amount of Rs.14585 crore has been provided towards the Guarantee claims.

Table. 13 :Details of surplus/Deficit

Year	Guarantee/ Annual service fee collected	Amount recovered in settled accounts	Core Income	Other Expendi -ture	Core Income - Other Expendi -ture	claim Settled	Surplus/ Deficit	Provision for Guarantee Claims	Surplus/ Deficit
Up to 2010	193	2	195	32	163	50	113	442	-279
2011	186	3.0	189	6	183	60	123	60	123
2012	262	4.0	266	5	261	67	194	282	-21
2013	581	10.0	591	8	583	170	413	483	100
2014	360	15.0	375	11	364	424	-60	833	-469
2015	465	31.5	496	7	489	724	-235	1108	-619
2016	539	57.9	597	7	590	1005	-415	1021	-431
2017	602	125.5	728	7	721	1034	-313	1126	-405
2018	653	177.9	830	8	822	968	-145	1315	-493
2019	726	209.6	936	10	925	817	109	1608	-682
2020	962	198.9	1161	9	1152	1002	151	1912	-760
2021	1299	144.0	1443	10	1433	703	730	2073	-640
2022	1560	166.0	1726	11	1715	1292	423	2322	-607
Total	8388	1145	9534	131	9403	8315	1088	14585	-5182

Considering the gross income (after meeting operating expenditure) of Rs.16,549 crore, the trust earned net surplus over provisions made (Rs.14,585 crore) and claim settled amount (Rs.8,315 crore).However, considering the core operating income of Rs. 9,403 crores, the Trust earned surplus of Rs.1088 crore over claim settled amount and incurred net loss of Rs.5182 crore over provisions made. It is estimated that the total employment of 155 lakh has been generated as result of the guarantees approved by the Trust since inception. Even if we consider Core operating income and the provision made towards the guarantee claims, the cost (the net loss) incurred by the Trust would be Rs. 5182 crore towards generation of this employment. Therefore, the Trust has incurred an amount of Rs. 3350 on an average to generate employment for one person. Therefore, looking at the social impact created by the scheme and the associated cost paid in terms of net loss we can conclude that the scheme has had a significant impact in comparison to the associated cost.

VI. Conclusion:

Government of India launched Credit Guarantee Scheme (CGS) in 2000 to strengthen credit delivery system and facilitate flow of credit to the MSE sector. It acts as a guarantor and shares potential credit risks to incentivize lending institutions. The CGTMSE Scheme was analysed to assess its effectiveness and impact. The benchmarks like Outreach, Financial additionality, Economic additionality and Financial sustainability and Cost-Benefit analysis were analysed to evaluate the success of the scheme. The study revealed that Cumulatively, as of March 31, 2022, a total of 8893281 accounts have been accorded guarantee approvals for Rs.318123 crore since inception of the scheme and the coverage under CGTMSE Scheme I & II accounted for 9.4% of total MSE units. Though the number of guarantees approved was more in the top 10 states as a greater number of MSE units are located in these states, the penetration rate was better in NE states and other states. The study concluded that the scheme has made a positive impact in both financial and economic additionality. Incremental lending on account of the scheme was estimated to be Rs.4.2Lakh Crore and about 41% of the amount guaranteed pertains to loan size below Rs.10 lakh, The proportion of credit guaranteed under CGTMSE for MSE to the outstanding credit to the MSE has shown increasing trend during the period of 3 years 2020-

2022. which stood at about 9.49 % as of March 31, 2022. It is also found that some levels of economic additionality in terms of increased turnover, investment, exports and employment growth. It was observed that the scheme has been sustainable meeting its claim settlements from its cash flow. However, the leverage ratio stood at 12.49 as of March 2022 and this would require an increase in the corpus to maintain a reasonable leverage ratio. Cost-benefit analysis shown that the scheme had significant social impact in comparison to the associated cost. The study can be conducted based on the primary data to assess the impact on the individual units and to understand various challenges being faced by the entrepreneu

VII. REFERENCES

1. Asdrubali, P., & Signore, S. (2015). The Economic Impact of EU Guarantees on Credit to SMEs Evidence from CESEE Countries EIF Working Paper 2015/29, July.
2. Boocock, Grahame, and Mohd Noor Mohd Shariff (2005) Measuring the Effectiveness of Credit Guarantee Schemes: Evidence from Malaysia. International Small Business Journal 23, no. 4, Aug: 427-52.
3. Bradshaw, Ted (2002) The Contribution of Small Business Loan Guarantees to Economic Development. Economic Development Quarterly 16, no. 4, Nov: 360-69
4. Brault, J., and Signore, S. (2019). The real effects of EU loan guarantee schemes for SMEs: A pan-European assessment. EIF Working Paper 2019/56, EIF Research & Market Analysis. June 2019. http://www.eif.org/news_centre/publications/EIF_Working_Paper_2019_56.htm
5. D'Ignazio, A., & Menon, C. (2013). The causal effect of credit guarantees for SMEs: evidence from Italy. Bank of Italy Temi di Discussione (Working Paper) No, 900.
6. Hennecke, Peter; Neuberger, Doris; Ulbricht, Dirk (2017) The economic and fiscal value of German guarantee banks, Thunen-Series of Applied Economic Theory - Working Paper, No. 152 University of Rostock, Institute of Economics
7. IBRD (2020) State credit guarantee schemes: Supporting SME access to finance amid the Covid-19 crisis, June.
8. Julien Brault and Simone Signore (2020) Credit Guarantees in the COVID-19 crisis – Relevance and Economic Impact European Investment Fund (EIF), The European Money and Finance Forum, SUERF Policy Note No 176,June.
9. Levitsky J, Ranga N. Prasad (1989). Credit Guarantee Schemes for Small and Medium Enterprises. World Bank technical paper number 58.
10. Maqhawe Zwane (2019) Economic Impact Analysis of Credit Guarantee Schemes in Eswatini: A Case of the Small Scale Enterprise Loan Guarantee Scheme (SSELGS), Eswatini Economic Policy analysis and Research Centre.
11. Reham Abu-baker, Mohammad Adeinat(2020) The Economic Impact of Credit Guarantees in Jordan. International Journal of Business and Economics Research. Vol. 9, No. 5, pp. 288-297. doi: 10.11648/j.ijber.20200905.11
12. Riding, Allan, Judith Madill, and George Haines (2007) Incrementality of SME Loan Guarantees. Small Business Economics, 29: 47-61
13. Zecchini, S., & Ventura, M. (2009). The impact of public guarantees on credit to SMEs. Small Business Economics, 32(2), 191-206.