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# ECONOMIC REFORM AND INDUSTRIAL SICKNESS IN INDIAN SMALL SCALE SECTOR

AMANAT BHULLAR <sup>1\*</sup>, PARMINDER SINGH <sup>2</sup><sup>1,2</sup> Guru Nanak Dev University, Amritsar, India**Keywords:**Small Scale Industrial Sector  
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**Abstract.** The major thrust of the present paper is to examine the working capital gap in the Indian Small Scale Industrial Sector during the period (1980-81 to 2011-12) further divided into two that is pre reform period (1980-81 to 1990-91) and post reform period (1991-91 to 2011-12). For the purpose of the study the data have been culled from Handbook of Statistics on Indian Economy, RBI and various reports. The paper is isolated into three sections; first section talks about the definition and magnitude of sickness in Indian Small Scale Industrial Sector. Second section estimates the Working Capital Gap (WCG) for the entire period (1980-81 to 2011-12) as well as pre reform period (1980-81 to 1990-91) and post reform period (1991-92 to 2011-12). It is revealed from the data presented in the table that the main cause of sickness is the lack of working capital and finance of the Small Scale Industrial Sector of India. The rise of small scale units has remained unabated even after the formulation of various new financial institutions which comprise of banking and non-banking institutes. It has been noted that the organization has failed to render the desired financial services for the small scale industries to meet the challenges of globalization. Therefore what is required is close cooperation of industries, government and financial institutes to refurbish the haleness of sick units and to lessen the dependence of small units on borrowed money.

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**INTRODUCTION**

The emergence of Small-Scale Industries (SSI) in India has resulted in the increased growth of the country's economy, wherein 40 per cent of the nation's total industrial production and 34 per cent of the national exports are contributed by SSI. Furthermore, the SSI sector of India provides employment to over 40 million people in India (Lakshmi, 2013). The increase in the number of Micro, Small and Medium Enterprises (MSME) is evident from the annual report of the Indian Ministry of Micro, Small and Medium Enterprises which evidence that around 362,991 applications of EM-II were filed by the MSMEs during 2013-2014 (Government of India, 2015). The economic growth of a developing country like India rests in the capabilities of SSIs as these companies aid in mitigating problems such as employment, poverty and so on. Furthermore, the entrepreneurial capabilities of the nation's talents are nourished. Since the potentials of rural population are not utilised, industrialization of rural areas offers additional employment to the rural mass thereby increasing the GDP of the country. SSIs require less capital and are highly labour absorptive; hence, the intervention of the sector is contributing to generation of employment and industrialization of rural areas (Vijayaragavan, 2015).

The significance of SSI is widespread and further aids in the growth of nation's economy; however, the sector suffers from

serious backdrops which is due to lack of support from governmental agencies and financial institutions such as banks. The relationship between SSIs and the economy of a country is interlinked wherein the economic development of a country lies within the total productivity of SSI and SSIs rely upon the levels of development of a country in order to gain financial support (Garg & Walia, 2014).

There is a pressing need to examine the lead factors responsible for serious degradation in the growth of SSIs and the causes that transfigure these SSIs as sick units. With regards to the previous context, it is of vital importance to examine the performance metrics of SSIs from a financial viewpoint. Hence, the present paper attempts to analyse the performance of SSI in India and the prevalence of sickness in these industries. The assessment will be based on the working capital gap analysis of the SSI in the liberalised regime. In addition, scarcity of capital resources is coupled with the weak creditworthiness of SSIs in the country. In the same context, Mishra (2012) further elucidates that lack of demand for the product manufactured by SSIs and the shortage of working capital to be the main reasons for economic sickness of these small units. All the aforementioned studies highlight the lack of capital availability to be the core hindrance to the development of SSI in India which can also be denoted as the financial sickness factor for SSIs.

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The objectives of the present study are to study the definition and magnitude of sickness in Indian small scale industrial sector, to examine the Working Capital Gap (WCG) in the small scale industrial sector of India and to study the role of government and financial institutes for the uplift of small scale industrial sector in India. In order to refine the flow of analysis, the paper is segregated into three sections and a final section to conclude the policy implications along with the discussions of the three sections. The first section of the paper provides suitable definition to sickness and sick units in India. Along with the definitions, the magnitude of sickness in Indian SSIs is elaborated. The second section examines the Working Capital Gap (WCG) in SSIs of India during the period 1980-81 to 2013-14. An aggregate calculation of growth rate is performed for the period 1980-81 to 2013-14 and the growth rate during two periods of reformation namely pre-reform period (1980-81 to 1990-91) and post-reform period (1991-92 to 2013-14) are separately calculated. The third section covers the financial infrastructure and the various measures that are undertaken by the Government of India for the welfare and development of SSIs. Final conclusions are drawn in section four.

### **DEFINITION AND MAGNITUDE OF SICKNESS IN INDIAN SMALL SCALE INDUSTRIES**

Industrial sickness is common in the progress, growth and development of an organisation. However, the persistence of this condition should not prevail over a long time which causes economical failure for both the organisation and the nation (considered on the whole). This is reflected by the fact that such sickness causes wastage of productive resources and loss of employment which affects the economics and social well-being of the society.

#### **Definition of Sickness**

“Sickness” in financial perspective refers to the state of an industry which is not healthy. On the contrary, a healthy unit is an industrial unit which establishes a reasonable return on the capital imparted for the business and conserves some part of the earned ratio for future use after providing depreciation. The prevalence of sickness in industrial units is due to the persistence of various factors which prevailing over a long period of time turns into symptoms of sickness. The symptoms of sickness are reflected in progress of an organisation wherein they include lack of financial adequacy (shortage of funds), continuous collapse of shares, frequent loan requests to financial institutions, delay of statutory dues, employee demoralisation, and pessimism among the top and middle managerial levels. These symptoms affect the performance of the plant, the utilisation of the entire organisational capacity, share market prices

and practices, production, labour relations and marketing. A feasible solution to address issues based on financial sickness in an organisation could be to detect signs of sickness as early as possible to avert such complications reaching the core of business processes (Gugloth & Kumar, 2011).

The Reserve Bank of India identifies sick units on the grounds of cash losses, deterioration in liquidity and imbalance in the finance structure. According to the definition stated by the RBI, a sick unit is identified to have suffered cash losses for a year and should incur cash loss for the current and the forthcoming year as judged by the financial institution. A sick unit is identified to possess an imbalanced financial structure wherein a less than 1:1 and worsening debt-equity ratio (Goyal, Gupta & Gupta, 2012).

Furthermore, the Sick Industrial Companies (Special Provisions) Act of 1985 defines a sick unit as an industrial unit that has an accumulated loss amount equalling or exceeding the net worth of the business and has incurred cash losses in the current year and the preceding financial year immediately after the current year. In addition, these units should be registered for not less than seven years. In accordance to the Sick Industry Companies Act, the categories of sick units are reported and are (i) Sick SSI (ii) Non-sick SSI and (iii) Non-SSI weak units. The scope of the Sick Industry Companies Act is limited towards the sick and non-sick SSI wherein the non-SSI weak units are not covered (Jain, 2012).

Small Industries Development Organisation (SIDO) and National Institute of Small Industry Extension Training (NISIET) describe sick units in specific to the SSI in India as the industries which do not satiate the minimum requirements of profitability and productivity for a considerable period of time. Another definition relates sick units as the industrial units which could not perform primary aspects of business such as productivity, sales, repayment of loans and debt collection. In addition, the complications stated in the aforementioned context occur beyond the control of the top management. The modified definition of the RBI with regard to sick small scale industrial unit in June 1989 states that the sick SSI at the end of an accounting year should have accumulated losses that should equal or exceed 50 per cent of the net worth in the preceding five financial years. The above definition applies for a very small decentralised sector if the unit satisfies the aforementioned criteria stated by the RBI. In case of persisting defaults in the payment of dues to financial institutions, a unit is deemed to be considered as sick. If irregularities are identified in the payment of interests or payment of principal instalments for a period of one year, then the unit is identified to be sick as per the guidelines of RBI. However, the revised guidelines of RBI (2012) for considering a unit to be sick state that a Micro and Small Enterprise (MSE)

is considered to be a sick unit if

a) Any of the borrowal account of the enterprise remains NPA for three months or more

OR

b) There is erosion in the net worth due to accumulated losses to the extent of 50% of its net worth.

“The stipulation that the unit should have been in commercial production for at least two years has been removed” (Srinivasan, 2012).

### Magnitude of Sickness

The magnitude of sickness in Indian SSIs can be visualised from table 7.1 which shows the number of sickness units present in SSI sector and non-SSI sector. From the growth rate of the units, it is observed that sickness units in the non-SSI sector are very high compared to SSI sector from the year 1980-81 to 1990-91. However, the magnitude of sickness units in SSI sector is higher than non-SSI sickness units. In the year 1990-91, the growth rate of SSI sickness unit was higher than the growth rate of non-SSI sickness unit. In the time period between 1991-92 and 1995-96, the growth rate of sickness unit in SSI sector declined

while the growth rate increased in the non-SSI sector. It could be inferred that the performance of the SSI sector was good in the years 1991-92 and 1995-96. Meanwhile, the growth rate of non-SSI sickness units for the year 1996-97 declined more compared to the previous year while in the SSI sector the growth rate slightly declined in the years 1996-97. Also, the growth rate of SSI sickness unit was very low compared to the non-SSI sickness unit growth rate for the years 1998-2001. After the year 2000-01, the number of sickness units in SSI sector gradually diminished. Furthermore, the average annual growth rate for sickness units in SSI sector and the non-SSI sector was 7.60 and 10.02 percent respectively. Hence, the sickness units in non-SSI sector growth increased when compared to SSI sector. In the year 2012, RBI revised the definition of sickness. According to the revised definition for sickness, a larger number of SSI units fell under sickness category. Hence, the magnitude of the sick units in SSI was high in the years 2012-13 and 2013-14 compared to the previous years. Furthermore, the magnitude of sickness units in SSI sector is higher than the sickness units in the non-SSI sector.

TABLE 1  
Sickness in India (1980-81 to 2013-2014)

Year (end-March)	Sick SSI unit			Sick non-SSI				
	Units	GR	Amt.	GR	Units	GR	Amt.	GR
1980-81	22360		322		422		1453	
1981-82	26973	0.21	394	22.36	439	4.03	1728	18.93
1982-83	64388	1.39	626	58.88	463	5.47	1913	10.71
1983-84	81647	0.27	788	25.88	513	10.80	2112	10.40
1984-85	97890	0.20	955	21.19	597	16.37	2655	25.71
1985-86	128687	0.31	1184	23.98	689	15.41	3238	21.96
1986-87	158226	0.23	1542	30.24	1057	53.41	2680	-17.23
1987-88	217436	0.37	1980	28.40	1172	10.88	3026	12.91
1988-89	186441	-0.14	2243	13.28	1419	21.08	4258	40.71
1989-90	225324	0.21	2611	16.41	1469	3.52	4734	11.18
1990-91	221472	-0.02	2792	6.93	1461	-0.54	5106	7.86
1991-92	245575	0.11	3101	11.07	1536	5.13	5787	13.34
1992-93	238176	-0.03	3443	11.03	1867	21.55	7901	36.53
1993-94	256452	0.08	3680	6.88	1909	2.25	8152	3.18
1994-95	268815	0.05	3547	-3.61	1915	0.31	8740	7.21
1995-96	262376	-0.02	3722	4.93	1956	2.14	8823	0.95
1996-97	235032	-0.10	3609	-3.04	1948	-0.41	8614	-2.37
1997-98	221536	-0.06	3857	6.87	2030	4.21	9862	14.49
1998-99	306221	0.38	4313	11.82	2357	16.11	13114	32.98
1999-00	304235	-0.01	4608	6.84	2742	16.33	16748	27.71
2000-01	249630	-0.18	4506	-2.21	2928	6.78	18478	10.33
2001-02	177336	-0.29	4819	6.95	2880	-1.64	17591	-4.80
2002-03	167980	-0.05	5706	18.41	2999	4.13	21518	22.32
2003-04	138811	-0.17	5285	-7.38	5054	68.52	31166	44.84
2004-05	138041	-0.01	5380	1.80	4478	-11.40	29644	-4.88
2005-06	126824	-0.08	4981	-7.42	3408	-23.89	26013	-12.25
2006-07	114132	-0.10	5267	5.74	-	-	-	-
2007-08	85187	-0.25	3082	-41.48	-	-	-	-
2008-09	103996	0.22	3619	17.42	-	-	-	-
2009-10	77723	-0.25	5233	44.60	-	-	-	-
2010-11	90141	0.16	5211	-0.42	-	-	-	-
2011-12	85591	-0.05	6790	30.30	-	-	-	-
2012-13	220492	1.58	12442	83.24	-	-	-	-
2013-14	465492	1.11	26311	111.47	-	-	-	-
AAGR		0.15		17.01		10.02		13.31

Amt.-Amounts O/S; GR-Growth rate, AAGR-Average Annual Growth Rate;

**TABLE 2**  
**Comparison between Pre and Post Reform Period on the Basis of Number of Sick Units and Amounts O/S in SSI**

Variables	Pre-reform period	Post-reform period	t-value	p-value
	Mean $\pm$ SD			
No. of sick SSI units	130076.73 $\pm$ 76783.94	199121.48 $\pm$ 94603.63	-2.106	0.043*
Amounts O/S	1403.36 $\pm$ 886.77	5761 $\pm$ 4868.98	-2.923	0.006**

\*\* $p < 0.01$ , \* $p < 0.05$

Mean comparison between pre and post reform period based on the number of sick units and amounts o/s in SSI sector is depicted in table 2. From the analysis, it is inferred that there is a statistical difference between pre and post reform period on the basis of a number of sick units and the outstanding amounts in SSI sector ( $p$ -value $<0.05$ ). Furthermore, the mean values connote that number of sick SSI units and outstanding amount were significantly high in the post-reform period when compared to pre-reform period.

The evidences from the table 2 warrant the need to analyse the reasons for sickness in a large number of SSIs in India. The analysis from the tables will provide effective routes to analyse the possible reasons for sickness and the policy formulations that could be identified for this sector. The fourth and final All India Census of Micro, Small & Medium Enterprises (2006-07) revealed the reasons for sickness in SSI and are tabulated in table 3.

The information in the table revealed that lack of working capital is observed to be one of the foremost reasons for sickness in SSI which adversely leads to failure of these units. It is evident that 20.49 per cent of the sick units in the country suffer from complications in availing financial assistance from the banking sector. Furthermore, the practical procedures to avail a loan take considerable amount of time which further delays small scale units in production further leading to sickness. The procedures of availing loan are generally based on backing up some form of collateral which small owners with limited availability to resources find hard to accomplish. A study by Kadam, Laturkar and Reader (2011) elaborated on the importance of finance management in SSIs in India. The previous study reveals that SSIs are driven into bankruptcy due to lack of finance. However, the lack of finance could be due to both internal and external causes. While external causes include the delay in the processing of loans by financial institutions, internal causes imply the improper usage of capital funds and improper finance and capital management. It is stated that for an organisation to function and evolve smoothly, there should be consistent flow of cash; however, management of capital funds helps in the long run of business. For small scale entrepreneurs, it is difficult to procure

land, labour, machinery and adequate resources with his/her resources at hand. Henceforth, these entrepreneurs require the assistance of financial institutions to procure aforementioned resources. In order to manage funds in a proper way, cash forecast is identified to be the best approach. The fourth all India census of MSMEs (2006-2007) revealed that as on 31.03.2007, a total of 1,99,706 registered MSMEs acquired loans from financial or non-financial institutions wherein the total worth of the loans is 46,520.23 crores. Of the 199,706 registered MSMEs, 199,706 registered MSMEs are supposed to have loan outstanding worth 32,921.95 crores. This reveals that 7.45 per cent of the total working MSMEs do have a loan outstanding and these data are dated as on 31.03.2007 (MSME, 2011). These data reveal lack of capital generation and finance management.

Problems associated with marketing hinder the growth of SSIs in India wherein table 3 reveals that 11.48 per cent of the sick units in the small scale sector observed marketing complications. Proper marketing strategies should be incorporated in business in order to survive in the competitive markets.

Patil and Chaudhari (2014) in this context revealed that absence of organised marketing is a contributing factor to sickness in SSIs in India. The problem with SSIs is the absence of marketing strategies wherein large organisations possess separate organisations to market their products. Lack of affordability to such advertising or marketing organisations is one primary factor that affects the popularity of product manufactured by SSIs. The absence of organised marketing further prevents the managerial personnel of small units to compare the quality of product accurately which leads to unfavourable prediction of product success by merely comparing with the products of large organisations.

In addition, these units fail to acquire customer information such as choice, preference and taste of the product. These factors adversely affect their survival in the market and hence lead them to sickness. Sharma (2012) with similar perspectives discerned the role of marketing in expanding the borders of Indian economy. The perceptions of the study are focused on the marketing activities of SSIs wherein the emphasis is laid upon the 4Ps namely product, price, promotion and physical production.



**TABLE 3**  
**Comparison between Pre and Post Reform Period on the Basis of Number of Sick Units and Amounts O/S in SSI**

Reason for sickness/ incipient sickness	Proportion of sick/ incipient sick units (in per cent)
1 Lack of demand	41.94
2 Shortage of working capital	20.49
3 Non-availability of raw material	5.11
4 Power shortage	5.71
5 Labour problems	5.64
6 Marketing problems	11.48
7 Equipment problems	3.17
8 Management problems	6.46

Source: Adopted from MSME (2011)

Serious power shortages have also affected the progress of SSIs in India. The supply of power to small industrial units was considered to be inadequate by 5.71 per cent of the sick units. The World Bank enterprise survey revealed that one third of managers in India stated shortage of electricity to be the primary factor hindering the growth of small scale industries in India. Further, their views towards economic hindrance are based on shortage of adequate energy resources rather than low human capital, corruption, taxes and so on (Allcott, Collard-Wexler & O'Connell, 2014). According to Cissokho and Seck (2013), the cost of production of SSIs is affected by additional expenses such as repairing of damaged equipment and the use of alternative energy resources (generators) to balance power shortages. For a major number of SSIs in India, the use of alternative energy sources such as generators is deemed to be not feasible hence, shortage of electricity affects production.

There are concerns in the SSI sector with regard to the shortage of raw materials at the right price. This in turn has effects on the quality of the manufactured end product. The Government of India after Independence devised the policy resolution (1948) which emphasizes the growth of small scale and cottage industries. As per the resolution, the development of SSIs in India could be enhanced through the utilisation of best resources to at first serve the local needs of the nation which further increased employment and economic growth. Furthermore, the concept of District Industries centres (DICs) was introduced in the Industrial Policy Statement (1977) to ensure the supply of raw materials to the local SSIs (Lahiri, 2012). However, the supply of raw materials to SSIs in the current scenario is mediated through middlemen. When the margin of these middle increases, small entrepreneurs utilise cheap raw materials that are available in the market. Hence, the concentration of the SSIs will deviate from the production of high quality products to

poor quality products in large quantities (McClelland & Winter, 1971). The improper supply of Raw materials further affects the production of SSIs. The Indian sub-continent accounts to 95 per cent of its industrial resources as SSIs. Human resource management is the key to effective survival of MSMEs. In light of this view, Marlow and Patton (1993) state that survival of medium and small scale organisations rests in the effective management of human resources. Hodgetts and Kuratko (2006) further emphasised the importance of labour management which has to be given equal importance similar to capital management. Other complications with respect to equipment and management also account to sickness in SSIs.

**WORKING CAPITAL GAP (WCG) ANALYSIS** The everyday business activities of small and medium scale industries require working capital. In Indian SSIs, when the adequacy of working capital becomes a complication, it would ultimately lead to the collapse of the enterprise. In line to the definition by Kuchhal (1976), working capital is compared to blood in human body wherein the circulation of blood gives life and working capital gives strength to business organisations. In terms of understanding the significance of working capital, short and long term credit types of financial intermediaries should be examined. For the sustained growth of any small scale unit, credit inputs are identified to be of prime importance. Long term credits involve credits that are acquired for the generation and acquisition of assets such as buildings, land, plant and machinery. On the contrary, short term credits imply the acquisition of credits that satisfy the daily needs of the units in terms of satiating energy needs through electricity, manufacture of new products through raw materials and salary payment through wages. It is identified that short term credits also known as the working capital pose serious threat to SSIs wherein the shortage

of the same leads to sickness of small units. Indian government post-independence has formulated a number of developmental reforms for the promotion of industrial developments in the country (EXIM Bank, 2012). Albeit the formulations devised by governments for the welfare of SSIs, there still exists some kind of a gap that barricades the adequacy of credits. Hampton (1983) claims that lesser the amount of working capital employed, the higher the rate of return. Furthermore, working capital management involves purchasing, marketing, inventory, royalty and investment policies (Hampton, 1983). These aforementioned contexts further intrigue to identify the gap that exists between the availability and requirements of working capital to SSI. The methodology suggested by the Laghu-Udyog (2016) is considered to be the base for the present section to analyse working capital gap. Furthermore, the present section analyses working capital gap based on pre and post-economic reformation in India.

The projected annual turnover method is utilised to assess working capital gap in both pre and post reform periods. The assessment methodology is based on the Laghu-Udyog (2016).

The percentage of working capital accounted for the total credit of bank to SSIs is 78 wherein the remaining percentage (22 per cent) accounts for the term loans. Henceforth, the approximate working capital availability to the SSI is calculated as follows:

Working Capital Availability (WCA) =

$0.78 \times \text{Total SSIs' Advances by scheduled commercial banks}$

In addition, the recommendations of the Nayak committee (1992) further elaborate the fixed percentage of working capital credit to SSI which is 20 per cent of the annual turnover. The approximation of the working capital requirements could be used as a benchmark though the needs and credit requirement of different industries vary according to their functionalities. This can be equated as follows:

working capital requirements

$= 0.20 \times \text{Total Production of SSIs}$

Finding the necessary estimates for WCA and WCR for the small scale industries, the Working Capital Gap (WCG) for each year can be calculated as follows:

Working Capital Gap (WCG) = WCR - WCA

**TABLE 4**  
**Working Capital Gap in India (in crores)**

Year	SSI Production	SSI Advances by SCBs	Advances as percentage of Production	Actual Working Capital*	Minimum Credit Requirement**	Working Capital Gap
1980-81	72200	3953	5.48	3083.34	14440.00	11356.66
1981-82	78300	4464	5.70	3481.92	15660.00	12178.08
1982-83	84700	5389	6.36	4203.42	16940.00	12736.58
1983-84	93500	6537	6.99	5098.86	18700.00	13601.14
1984-85	104600	7829	7.48	6106.62	20920.00	14813.38
1985-86	118100	9127	7.73	7119.06	23620.00	16500.94
1986-87	133600	10659	7.98	8314.02	26720.00	18405.98
1987-88	150500	12968	8.62	10115.04	30100.00	19984.96
1988-89	169900	14635	8.61	11415.30	33980.00	22564.70
1989-90	189900	15969	8.41	12455.82	37980.00	25524.18
1990-91	84728	17938	21.17	13991.64	16945.60	2953.96
1991-92	87355	18939	21.68	14772.42	17471.00	2698.58
1992-93	92246	20975	22.74	16360.50	18449.20	2088.70
1993-94	98796	23978	24.27	18702.84	19759.20	1056.36
1994-95	108774	29175	26.82	22756.50	21754.80	-1001.70
1995-96	121175	34246	28.26	26711.88	24235.00	-2476.88
1996-97	134892	38196	28.32	29792.88	26978.40	-2814.48
1997-98	146263	45771	31.29	35701.38	29252.60	-6448.78
1998-99	157525	51679	32.81	40309.62	31505.00	-8804.62
1999-00	170379	57035	33.48	44487.30	34075.80	-10411.50
2000-01	184401	60141	32.61	46909.98	36880.20	-10029.78
2001-02	282270	67107	23.77	52343.46	56454.00	4110.54
2002-03	306771	64707	21.09	50471.46	61354.20	10882.74
2003-04	336344	71209	21.17	55543.02	67268.80	11725.78
2004-05	372938	83498	22.39	65128.44	74587.60	9459.16
2005-06	418884	101285	24.18	79002.30	83776.80	4774.50
2006-07	1198818	127323	10.62	99311.94	239763.60	140451.66
2007-08	1322777	213539	16.14	166560.42	264555.40	97994.98
2008-09	1375589	256128	18.62	199779.84	275117.80	75337.96
2009-10	1488352	362291	24.34	282586.98	297670.40	15083.42
2010-11	1653622	478527	28.94	373251.06	330724.40	-42526.66
2011-12	1788584	527684	29.50	411593.52	357716.80	-53876.72
2012-13	1809979	687208	37.97	536022.24	361995.80	-174026.44
2013-14	1977658	851092	43.04	663851.76	395531.60	-268320.16

Source: Adopted From Reserve Bank of India (2015a, 2015b)

Table 4 reveals the working capital gap estimation in Indian small scale industrial sector during the period 1980-81 to 2013-14. The difference between a working capital requirement and availability in the small scale industry during the period 1980-81 to 2013-14 is shown in table 7.3. The findings reveal that production of SSI sector gradually increased from the period 1980-81 to 1989-90. After the year 1990, there was huge decline in the production of SSIs. Meanwhile, the production level of SSI sector recovered during 1991-92. Finally, SSI sector's production level smoothly increased during the period 1991-92 to 2013-14. When considering the scheduled commercial banks' advances to SSI sector, the amount increased gradually from the year 1980-81 to 2013-14. Analogously, the Working Capital Availability (WCA) and working capital requirement also

increased during the period 1980-81 to 2013-14. In addition, there was a huge level of difference between a working capital requirement and availability during the period 1980-81 to 1989-90. After the year 1991, the difference was less. It could be concluded that SSI sectors had the adequate financial assistance from the Scheduled Commercial Banks (SCB). During the period 1994-95 to 2000-01, the working capital gap of SSI sector was negative. Hence, SSI sectors received more financial assistance from SCB which is more than their requirement. During the period 2001-02 to 2009-10, once again SSI sectors felt lack of financial support from SCB. Meanwhile, the SSI sectors acquired sufficient financial support from SCB from the year 2010-11 and followed till 2013-14.

**TABLE 5**  
**Comparison between Pre and Post Reform Period Based on the Production of SSI and SSI advances by SCB**

Variables	Pre reform period	Post reform period	t-value	p-value
	Mean $\pm$ SD			
SSI production	116366.18 $\pm$ 39752.90	620760.64 $\pm$ 647618.72	-2.560	0.016*
SSI advances by SCB	9951.63 $\pm$ 4850.61	185727.52 $\pm$ 235181.04	-2.459	0.020*

\* $p < 0.05$

Table 5 shows the difference between pre and post reform period based on the production of SSI and SSI advances by SCB. The findings indicate that amount of SSI production and SSI advances by SCB varied between pre and post reform period

( $p$ -value  $< 0.05$ ). Furthermore, the mean values connote that amount of SSI production and SSI advances by SCB were significantly high in the post reform period compared to pre reform period.

**TABLE 6**  
**Correlation Analysis between Working Capital Gap and Sick Units in Indian SSIs**

	Statistics	Units	WCG
Units	r-value	1	-.544
	p-value		.001**
WCG	r-value		1
	p-value		

\* $p < 0.01$

The linear relationship between working capital gap and sick units in Indian SSI sector is shown in table 6. On the basis of the significance value ( $p$ -value  $< 0.05$ ), there exists a relationship between working capital gap and sick units in Indian SSI sector. Further, Pearson correlation coefficient (r-value = -0.544) clarifies that the relationship is negative.

Hence, it is concluded that working capital gap increases in value, it would lead to reduce the number of sick units in SSI.

#### Pairwise Granger's Causality Tests

The cause and effect relationship between working capital gap and sick units in SSI sector is verified using the Granger's causality test under the Vector Auto Regressive (VAR) model. This test concludes whether working capital gap causes sickness in SSI units or sickness is the cause for a working capital gap. In this model, both Working Capital Gap (WCG) and sick units in SSI sectors are considered as dependent variables while the lag variables such as WCG (-1), WCG (-2), SICK (-1) and SICK (-2) are considered to be the independent variables (Table 7).



**TABLE 7**  
**Vector Auto Regression Estimates**

	<b>WCG</b>	<b>SICK</b>
WCG(-1)	1.190882 (0.21363) [5.57461]	-0.712872 (0.21768) [-3.27480]
WCG(-2)	-0.121854 (0.28229) [-0.43166]	0.001494 (0.28766) [ 0.00519]
SICK(-1)	-0.111437 (0.22410) [-0.49726]	1.130898 (0.22836) [ 4.95224]
SICK(-2)	0.213252 (0.20587) [ 1.03585]	-0.406687 (0.20978) [-1.93861]
C	-24791.20 (20103.1) [-1.23320]	63721.22 (20485.0) [ 3.11063]
R-squared	0.702662	0.814346
Adj. R-squared	0.658612	0.786842
Sum sq. residuals	4.33E+10	4.50E+10
S.E. equation	40043.82	40804.53
F-statistic	15.95141	29.60798
Log likelihood	-381.8150	-382.4172
Akaike AIC	24.17594	24.21357
Schwarz SC	24.40496	24.44260
Mean dependent	-1812.110	186290.8
S.D. dependent	68534.79	88380.69
Determinant residual covariance (dof adj.)		2.17E+18
Determinant residual covariance		1.55E+18
Log likelihood		-760.9205
Akaike information criterion		48.18253
Schwarz criterion		48.64057

From table 7, it is observed that sick (-1) is in a negative relationship with working capital gap while sick (-2) is in a positive relationship with working capital gap based on the coefficient values. Likewise, WCG (-1) is in negative relationship with sick units while WCG (-2) is in a positive relationship with sick units in the SSI sector. However, the statistically significant

relationship will be concluded based on further results. Table 8 elucidates whether Sick (-1) and Sick (-2) jointly cause the working capital gap in SSI sector.

H0: Sick [sick (-1) and sick (-2)] cannot cause working capital gap.

H1: Sick [sick (-1) and sick (-2)] can cause working capital gap.

**TABLE 8**  
**Effect of SSI Sick [Jointly Sick (-1) and Sick (-2)]  
on Working Capital Gap (WCG)**

<b>Excluded</b>	<b>Chi-square</b>	<b>df.</b>	<b>p-value</b>
UNITS	1.956358	2	0.3760

Dependent Variable: WCG

Table 8 represents the association between SSI sick [jointly sick (-1) and sick (-2)] and working capital gap. Here, the p-value is above 5 percent of significance. It could accept the null hypothesis as “sickness cannot cause working capital gap”. Likewise, whether WCG (-1) and WCG (-2) jointly cause sick-

ness in SSI sector is enumerated in the table 9.

H0: Working capital gap [WCG (-1) and WCG (-2)] cannot cause sickness in SSI sector.

H1: Working capital gap [WCG (-1) and WCG (-2)] can cause sickness in SSI sector.

**TABLE 9**  
**Effect of Working Capital Gap [Jointly WCG (-1) and WCG (-2)] on Sickness**

Excluded	Chi-square	df.	p-value
WCG	16.71810	2	0.0002

Dependent Variable: SICK

The significance value (p-value) is less than 5 percent level of significance. This would lead to rejection of the null hypothesis and supports the alternative hypothesis as working capital gap [WCG (-1) and WCG (-2)] can cause sickness in SSI sector. Therefore, the result would conclude that working capital gap can cause sickness in the SSI sector.

**FINANCIAL INFRASTRUCTURE AND GOVERNMENTAL ORGANISATIONS**

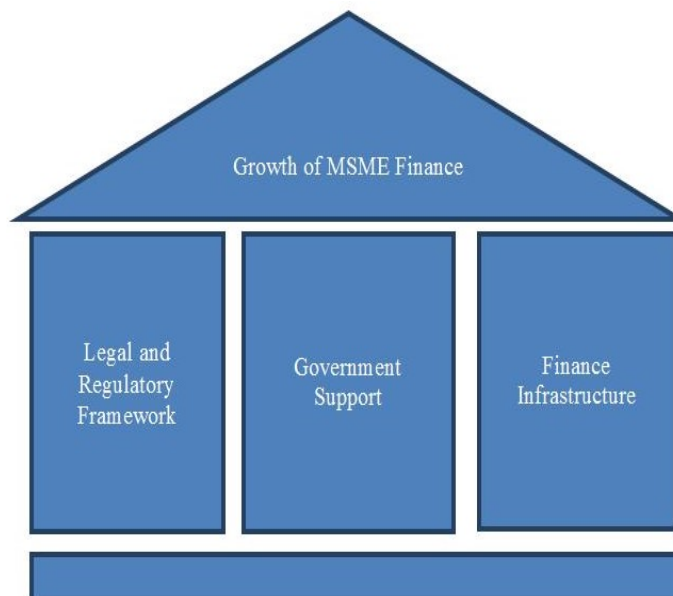
The role of SSIs in India is crucial to the socio-economic growth of the country. These industries act as catalysts to the development of the nation’s economy wherein national issues such as unemployment, poverty and rural-urban migration are

all resolved. The progress of this sector is exhibited over the last decade; however the growth of small scale units should be strengthened with financial support and legal policies. In light of the context, three main pillars of support through an enabling environment are devised by International Finance Corporation (IFC) (Sawhney et al., 2012) and are as follows:

- Regulatory and legal framework
- Government support and
- Financial infrastructure and support

In the same context, the section will elucidate the role of governmental frameworks and financial institutes for the uplift of SSIs in India.

**FIGURE 1**  
**Three Pillars of Support to MSME**



Source: Adopted from International Finance Corporation (2012)

### **Regulatory and Legal Framework**

Legal and regulatory frameworks form the essence for development activities in a nation. Being a developing country, the Government of India has instituted various policies to facilitate the progress of SSIs. Further, these policies are drafted along with the notion to foster participation of the financial sector to support SSIs. It is however important to understand the evolution of the policy frameworks that support the well-being of MSMEs and SSIs in India. The evolution of policy frameworks is grouped into three categories with respect to liberalisation (economic reformation) in India that took place in the year 1991. An overview of MSMEs in India elucidated the three periods of policy reforms in the MSMEs which are designated by time/duration range: 1948-1991, 1991-1999 and 1999 onwards (MSME, 2009).

#### **1948-1991: The Beginning of Industrialisation and the Emergence of SSIs in India**

The policy resolutions that are stated from 1948 to 1991 recognised the potential of micro and small enterprises which are identified to be the sources of employment and can increase the GDP of the nation and further guarantee equitable distribution of resources. In addition, these small units facilitate the capital and skill mobilisation of private sector. In the year 1954, the Small Industries Development Organization (SIDO) was set up which was later named as Micro, Small and Medium Enterprises Development Organisation as an interventional organisation to manage the sustained growth of MSMEs. Within few years, the Khadi and Village Industries Commission, National Small Industries Corporation and the Coir board were established to nourish the growth of MSMEs. These organisations also provided adequate support through easy and reserved access to raw materials, access to financial support through Priority Sector Lending Programme of commercial banks, exemption to excise taxes, price preference up to 15 per cent, development of infrastructure and the establishment of entrepreneurial skill development institutes. Several institutes known as Small Industries Service Institute (SISI) which were later renamed as MSME Development Institutes were established to train talented youth to become entrepreneurs. State level District Industries Centres (DIC) were established across all parts of the nation.

These centres contribute to the development of skilled craftsmen and artisans to engage in productive activities which further promotes the development of rural economy (Planning Commission, n.d.).

#### **1991-1999: The Era of Economic Reforms**

The era of liberalisation began in the year 1991 wherein the country liberalised market policies which resulted in open market and foreign investments. The new policies led to the growth and progress of MSMEs through increased competitiveness. Other supportive statutes were devised which concentrated on enhancing the quality, technology and infrastructure of these units. Since quality plays a key role for the successful marketing of the products, quality certification centres were deployed. With the purview of aiding MSMEs, the Small Industries Development Bank of India (SIDBI) was established during the period and a Technology Development and Modernization Fund was created to steer the process of finance and technological services to these industries. In addition, the delayed payment act was enacted to ensure promptness in the payment of dues to MSMEs and an Industrial Infrastructure Development (IID) scheme to institute industrial estates for mini industries.

#### **1999 Onwards: Emergence of the Ministry of MSME**

The Ministry of Small Scale Industries and Agro & Rural Industries (SSI & ARI) which was later renamed as Ministry of MSME was established in the year 1999 with a clear focus on the development and progress of SSIs and MSMEs. The ministry released the new policy package in the year 2000 wherein the problems related to infrastructure, technology, credit and marketing were effectively addressed. The inception of credit guarantee scheme provided encouragement to MSMEs in undertaking technological amendments to their existing system and the credit linked capital subsidy scheme which initiated the collateral free loan system to facilitate small entrepreneurs. Other meritorious schemes include the excise exemption scheme wherein the limit for paying excise duty was raised to Rs. 1 crore. In the year 2006, the Micro, Small and Medium Enterprises Act was enacted and in the year 2007, the package for Promotion of Micro and Small Enterprises was released which includes the schemes and proposals for the promotion of MSMEs. The act further encourages entrepreneurs to adapt to the ever changing market environment thereby competing to achieve success.

#### **Government Support**

In order to provide massive support for the progress of SSIs, a number of institutions have been established with different development programmes. These institutions are central and state level governmental organisations established for the promotion and development of SSI in India which are listed in table 10.

**TABLE 10**  
**Effect of Working Capital Gap [Jointly**  
**WCG (-1) and WCG (-2)] on Sickness**

<b>Central institutions and organisations</b>	<b>State level institutions and organisations</b>	<b>District level institutions and organisations</b>
Small Industries Development Organisation (SIDO)	Directorate of Industries	District Industries Centres
Small Industries Service Institutes (SISIs)		
National Small Industries Corporation (NSIC)	Small Industries Development Corporation (SIDCO)	
National Institute for Micro, Small and Medium Enterprises (NI-MSME)		
National Institute for Entrepreneurship and Small Business Development (NIESBUD)	Small Industries Marketing Corporation (SIMC)	
Small Industries Development Bank of India (SIDBI)		
- (Financial support organisation)		

Sources: Adopted from Bharathi (2011); Higgison (2000)

### **Central Institutions and Organisations**

#### **Small Industries Development Organisation (SIDO)**

Small Industries Development Organization (SIDO) is an organisation headed by the Additional Secretary & Development commissioner, the Ministry of Micro, Small and Medium Enterprises. The organisation is one among the apex bodies of the ministry to assist the government in the policy formulation and schemes which promote the growth and development of Indian small and medium scale industries. In addition, the organisation monitors the implementation of the proposed policy formulations by the government (Ms Media Allahabad, 2005). Established by the Parliament act no. 28/1973, the main objective of the organisation is to promote the development of small scale industries and coordinate their activities. The strategic plan of SIDO is to ensure sustainability in the development of small scale industries through assistance based on financial and business development services (SIDO, 2014).

#### **Small Industries Service Institutes (SISIs)**

Small Industries Service Institutes (SISIs) were established with the purview of providing training and consultant based services to the existing and newly emerging small scale units. The core functionality of these institutes is to close the gap between the state and central governments through sharing of economic information and aids in the provision of technical support, project profile preparation, entrepreneurship development programmes,

programmes on conserving energy resources, pollution control, quality control, export-import promotion, and market surveys (Selvaraj & Balajikumar, 2015).

#### **National Small Industries Corporation (NSIC)**

The National Small Industries Corporation (NSIC) was established in the year 1955 in the country's capital under the union ministry of industries with the viewpoint to facilitate the growth of small scale industries in the nation. To provide beneficial services to SSIs, assistance packages are offered by the NSIC. This includes single point registration, information service, assistance to raw material acquisition, sanction of capital support, subsidised credit ratings up to 75 per cent and market assistance (Higgison, 2000).

#### **National Institute for Micro, Small and Medium Enterprises (NI-MSME)**

National Institute for Micro, Small and Medium Enterprises (NI-MSME) came into existence in the year 2007 when the existing organisation "National Institute of Small Industry Extension Training" (NISIET) was renamed. NI-MSME provides services related to the promotion of new opportunities, new products and services, investment opportunities, upgradation of skills, product and service marketing, partnership and collaboration, and innovation in SSIs. Furthermore the organisation provides assistance through industry specific programmes, organisation

specific programmes and product specific programmes for the development of SSIs (NIMSME, 2007; Bernik, Azis, Kartini & Harsanto, 2015).

### **State and District Level Institutions and Organisations**

Several state level organisations are established for the development of small scale units since these organisations can directly aid in implementing services that positively regulate the growth of SSIs. Organisations such as Small Industries Development Corporation (SIDCO) and Small Industries Marketing Corporation (SIMC) were set up to serve the requirements of SSIs. District Industries Centres were set up which are monitored by the Directorate of Industries (DI) specific to respective states.

### **Directorate of Industries (DI)**

The directorate of Industries (DI) is established in different states of India and is supervised by the SIDO. The directorate is responsible for the progress of commerce and industries wherein special attention is focussed on the progress of small and medium scale industries. The directorate holds the responsibility to supervise the services provided by District Industries Centres (DIC) which include training, development of entrepreneurial skills, formation of cooperative society, and so on (TN Gov, 2010).

### **District Industries Centre (DIC)**

District level DICs are set up by the government to facilitate entrepreneurial development in rural and semi-urban areas of the districts. These centres provide assistance to the promotion of small and medium scale industries and help in the emergence of village cottage industries. Investment support is also assisted through these centres. Facilities such as provision of raw materials, marketing inputs, entrepreneurial skill development, quality control and so on are provided by these centres (Jayalakshmi & Gayathri, 2016).

### **Financial Infrastructure and Support**

SSIs play a vital role in the progress of Indian economy and are the major contributors to the nation's GDP. Since the contribution of small and medium scale units is diverse, financial institutions identify the necessity to finance such businesses rather than performing the same due to some form of governmental compulsion. In this regard, the role of SIDBI is crucial to the financing of SSIs (Ganguly, 2004). Under the Parliament act of 1990, the Small Industries Development Bank of India (SIDBI) came into existence as an apex financial institution for the progress and development of Indian small scale industries through financial assistance. The SIDBI also engages in the co-

ordination of other financial institutions with the same purview to offer financial assistance to small scale industries in India. The financial support services offered by this institution include refinance and resource support, direct assistance to MSMEs and Micro Finance through MFIs.

Refinance and resource support services include support through Primary Lending Institutions (PLIs), direct assistance in capital/equity financing, promotion of energy efficient production and service sector financing. Both financial and non-financial services are offered by the SIDBI with regard to addressing gaps in finance and other complex areas of small scale units (MSME, 2015). Various finance based initiatives are addressed by SIDBI through entrepreneurship promotion using the website 'www.smallb.in'. Services with respect to credit advisory, facilitation of loans and specific programmes for banks include capacity building, micro enterprise lending in rural regional banks and so on (MSME, 2015).

In addition, commercial banks with extensive perspectives have widespread branches across all regions of the country and provide separate schemes for the development of small scale enterprises in the nation. Small Industries Development Corporations (SIDCO) operate across different states to provide finance related assistance to SSIs. These corporations act as the source of long term finance for small and medium scale industries (Bhat & Soni, 2015).

Several financial schemes are announced by the Indian Ministry of MSMEs which include the Pradhan Mantri Mudra Yojana and NABARD schemes (Credit Linked Capital Subsidy, Swarozgar credit card and NABARD warehousing scheme).

Based on the finance budget of 2015, a Micro Units Development Refinance Agency (MUDRA) was set up to assist small industrial or cottage units with refinance facilities. The primary product of the agency is refinance for small units which is backed up by the Pradhan Mantri Mudra Yojana scheme. The scheme offers loan ranging from 50,000 (in rupees) to 10 lakh (in rupees). Small units such as shopkeepers, saloons, transporters, repair shops, small industries, artisans and self-help groups can avail loans under the scheme.

The National Bank for Agricultural and Rural Development (NABARD) assists with the provision of refinance support to commercial banks for farming and non-farming related activities. The assistance of NABARD extends to other rural regional banks and co-operative banks to assist cottage and small scale units of production. The schemes of NABARD include assistance for technological upgradation for small units, adequacy in the provision of working capital, management of storage capacity and financing for the same (MAME, 2015). Table 11 specifies the schemes related to the development of SSIs.



**TABLE 11**  
**Ministry of Finance Schemes**

<b>Related scheme</b>	<b>Description</b>	<b>Nature of assistance</b>	<b>Nature of applicant</b>
Pradhan Mantri Mudra Yojana	refinance for lending to micro businesses and units	provide assistance for the next phase of graduation / growth of the entrepreneur	shopkeepers, fruits/vegetable sellers, hair cutting salons beauty parlours transporters, truck operators, hawkers, co-operatives or body of individuals, food service units, repair shops, machine operators, small industries, artisans, food processors, self help groups, professionals
<b>NABARD Schemes</b>			
Credit Linked Capital Subsidy (CLCS)	Technological up-gradation of Micro & Small Enterprises.	induction of well-established and improved technologies approved under the scheme	Small and medium scale industries
Swarozgar Credit Card	adequate, timely and uninterrupted credit in the form of working capital	Working capital assistance in the form of consumption needs and/or block capital.	Small artisans, Handloom weavers and self-employed professionals
NABARD Warehousing scheme	Loan extension to Public and Private Sectors for warehouse construction, silos, cold storages and other cold chain	Loans for agricultural and allied produce which includes the construction of warehouses, silos & cold storage	Prioritised for states that suffer from food-grain deficits. Panchayat agencies, Private Companies, Individual Entrepreneurs and cooperative farming agencies can apply

Sources: Adopted from MAME (2015)

## SUMMARY

The results of the findings from section I revealed that the magnitude of sickness is high during the pre-economic reforms period in India which is the period before 1991. However, RBI report clearly reveals that the number of sick SSI units in the country even adversely increased till 2001. Though a consistent increase and few decreases in the number of sick units in the country are evident between the period 1980-2001, substantial decrease in the number of sick SSI units in the country is however evident after the year 2001. Within the period of 1980-2006, a gradual increase in the number of sick non-SSIs is evident from table 1. The increase in the number of sick non-SSIs was on gradual pace till 1985-86 and suddenly rose up. This is evidenced in table 1 wherein the number of sick non-SSIs is 689 units in 1985-86 wherein the number became 1057 during 1986-87. After the period of 1986-87, the number of sick non-SSIs went on increasing pace. Henceforth, it is revealed that economic reformation in India has impacted the growth and progress of SSIs in India. Though the number of sick units in India gradually increased post liberalisation (economic reformation), a considerable decline in the number of sick SSI units can be visualised in table 1 after the year 2000-2001. However, there is

an inclining trend in the number of sick non-SSIs in the country post-liberalisation. This evidences that not only SSIs, but the magnitude of sickness is high even in non-SSI units of the nation.

Though the reasons for sickness in SSI are based on factors such as shortage of power, lack of demand, lack of management and marketing problems, there is a dire need to analyse the so called 'working capital' which plays a crucial role in the progress of SSIs. Other factors such as shortage of power and marketing are linked with the working capital wherein these issues can be resolved if there is adequacy in amount of working capital. In this context, working capital issues do impact the quality of manufactured product. In a developing country, it is important that products be produced in large quantities; however, quality plays an important role and is the facilitating factor for export of products which in turn increases nation's GDP. Lack of proper raw materials due to high margin specifications of middlemen, shortages of power, and lack of marketing strategies could be mitigated if the working capital gap in SSIs is resolved.

The working capital gap analysis is performed to analyse the capital requirement and availability in the SSI during the period 1980-81 to 2013-14. The period of 1980-81 to 2013-14 is fur-

ther divided into two which is based on liberalisation (Economic reformation). In this context, the years ranging between 1980-81 and 1990-91 is considered as pre- reform period and between 1991-92 and 2013-14 is considered to be the post- reform period. The analysis of working capital gap in the context of liberalisation identified massive differences in the working capital gap in the SSI sector when both pre and post liberalisation periods are considered. The working capital gap of SSIs till the year 2001 revealed positive values which further implied that the working capital requirements of SSIs before liberalisation were not met. On the contrary, post-liberalisation revealed that the values gradually decreased and followed negative trends which further elucidated that the working capital requirements of SSI are satisfied and exceed the limits. This further revealed that Scheduled commercial banks in the country post liberalisation provided additional financial assistance for the growth of SSIs. The cause and effect relationship between working capital gap and sickness is analysed using the Granger causality which discerned that there exists a specific causality for working capital and sickness. The tests prove the hypothesis that working capital gap causes sickness in the SSI sector. Hence, it is concluded

that there exists dependency between working capital gap and sickness, with working capital gap as the cause of sickness.

Many governmental agencies however play a vital role in formulating policies for the growth and development of SSIs in India. Organisations such as Small Industries Development Organisation (SIDO), Small Industries Service Institutes (SISIs), National Small Industries Corporation (NSIC) and National Institute for Micro, Small and Medium Enterprises (NI-MSME) provide adequate support to SSIs with regard to training and entrepreneurial management, and monitor the operations of state level organisations whether the policy formulations are implemented to the core. The Directorate of Industries is set up which monitors the actions of District industries centre (DIC) which forms the deepest level of support to SSIs. Financial support is offered by the small industries development bank of India (SIDBI), National Bank for Agriculture and Rural Development (NABARD) and Small Industries Development Corporations (SIDCO) which promote the development of SSI through timely supply of capital funds. In addition, commercial banks and regional rural banks also offer financial assistance to SSIs.

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