INDUSTRIAL FINANCING AND RECOVERY – A COMPARATIVE STUDY OF BACKWARD AND DEVELOPED REGIONS

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Abstract :

Indian economy is characterised by imbalanced regional development in terms of per capita income, employment, industrial activities, human development index, health care services, etc., and this is true even in the case of Karnataka state which is one of the fast-developing states. In order to address this issue and to achieve balanced regional development, the state government is taking many steps and one such step is the support for industrial activities in backward districts of the state.

With the objective of assisting industrial enterprises in the state including those in backward regions/districts in pursuit of balanced regional development, the state government has established the Karnataka State Financial Corporation (KSFC). This study examines the role of KSFC in assisting industrial enterprises in backward and other districts of Karnataka using three variables and to evaluate its recovery performance by using another three variables. For this purpose, the relevant statistics are collected for a period of ten years, 2007-08 to 2016-17. And the descriptive statistics, CAGR, and student's t-test are used for evaluating its assistance to industrial enterprises and also to evaluate its recovery performance. Besides, testing of hypotheses is made using Granger's Causality Test and Co-integration Test parallel to CAGR and t-test.

The study finds that the corporation has been increasing its financial assistance for industrial enterprises in both the backward and developed districts. However, the rate of increase is comparatively higher for units in backward districts through the difference is statistically not significant. Further, no much difference is found in the recovery performance between industrial enterprises in backward districts and in developed districts.

Keywords : Backward Regions, KSFC, Loans and Advances, Outstanding Debt, Recovery, Default Amount

JEL Classification: C01, G20, G23, G28, R51, R58

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INTRODUCTION

Indian economy is characterized by imbalanced regional development. This is true even in the case of industrial development – industrial activities differing from one state/region to another. Regional imbalances in terms of per capita income, educational services, level of industrial development, etc., exist even today among Indian states. Though the country has been making balanced regional development as an integral part of its developmental policies and strategies, it has not been able to remove the regional imbalances and to achieve balanced regional development. In this backdrop, Vijay Kumar Sarabu (September 2016)has aptly observed that one can find remarkable growth achieved by some states and in some sectors, and also the low levels of development by other states and in the same and/or other sectors. And these regional imbalances, as rightly pointed by Samik Chowdhury (August 2014), have potential drag effects on economic growth of any country.

More or less, a similar type of imbalanced development can be found/noticed even in the case of Karnataka State. For example, Bidar district of Karnataka state has the lowest per capita income of around 16,000 which is only1/5th of that of Bengaluru (Urban) district (another state of Karnataka state) of around' 80,000. However, as far as the growth rates are concerned, there is no much variation between southern and northern regions of Karnataka state. For instance, Belagavi division of northern Karnataka and Mysuru division of southern Karnataka have recorded lower growth rates during 1990s. On the other hand, Bengaluru division of southern Karnataka and Kalaburgi division of northern Karnataka have achieved higher growth rates during the first seven years of this century. However, what is shocking is, in three divisions (out of four divisions of the State), inter-district disparity has widened during the first seven years of this century. In this type of situation, Shiddalingaswami and Raghavendra (December 2010) felt that social overhead capital plays a key role in the promotion of higher human and economic development, and this is expected to reduce the regional imbalances.

In Karnataka state, there are districts with a large number of industrial enterprises [e.g., Bengaluru (Urban)] than they can accommodate and the districts with a few industrial enterprises (e.g., Bidar) than their potential to accommodate. It is an established truth that the industrial activities spark the economic activities contributing immensely not only for the development of industrial sector but also for the development of other sectors of the economy. Amrita Dhaliwal (June 2016) says, by offering goods and services, generating a large number of employment opportunities, etc., the entrepreneurs are able to contribute immensely for the overall development of the economy. However, the contribution of industrial activities to the economic development depends upon the natural/material resources available, industrial environment, responsiveness of government to the requirements of industrial units, etc.

Inchara (2018) felt that for the purpose of achieving balanced regional development, 'micro, small and medium enterprises' (MSMEs) are more appropriate as they contribute substantially for the overall development of the economy. It maybe noted here that the MSMEs have the potential to contribute substantially for the industrial growth. This is because of the reasons that these enterprises utilize the locally available inputs (ensuring better market and market price for these inputs which otherwise go waste), generate employment opportunities for the local unemployed youths/persons (ensuring

regular and assured source of income to them and to their families), etc., besides generating commercial surplus for their promoters / proprietors. This sector with about 36 million units has provided employment opportunities to more than 80 million persons. With the production of more than 6,000 quality products, it is contributing about 8% to country's GDP. Its contribution to the total manufacturing output is about 45% and to the exports from the country, it is about 40%. This way, MSMEs are contributing significantly for the economic development of districts, regions and/or state. However, though these enterprises have the potential to contribute more for further development of the economy, they are unable to do so owing to many problems. One such common but major problem of MSMEs is that of finance. To help these enterprises, the state governments have established (state) financial corporations and one such corporation is the Karnataka State Financial Corporation established by the Government of Karnataka.

In the light of the above hard truth, the Government of Karnataka has been making efforts for the development of backward districts. One such effort is the use Karnataka State Financial Corporation (KSFC, corporation) to provide preference, while sanctioning loans and advances, to the proposals from industrially backward districts –from existing industrial units and/or from new potential entrepreneurs.

Karnataka State Financial Corporation – A Brief Profile

Karnataka State Financial Corporation (KSFC or corporation) is a state level financial corporation established by the Government of Karnataka (GoK) on 30 March 1959 (under Section 3 of the State Financial Corporations Act, 1951) on the lines of Industrial Finance Corporation of India [established by the Government of India (GoI)]. The primary objective of this corporation is to assist industrial activities/units in the state (more particularly, MSMEs) in their financial requirements – both short, medium and long-term loan requirements.

It has the whole state of Karnataka as its jurisdiction. For the purpose of effective functioning and supervision/control, the corporation has established four Circle Offices (one Circle Office in each of the four Revenue Circles as defined by the GoK for administrative purposes) and 32 Branch Offices - one Branch Office in each of 30 Districts [three Branch Offices in Bengaluru (Urban) District] of Karnataka state (with 7 – 9 branch offices under the supervision of each circle office).

Government of Karnataka is the major shareholder of the corporation with 95.87% share in the share capital followed by others such as SIDBI, LIC of India, Public Sector Banks, Co-operative Societies, etc., holding the remaining 4.13% of share capital as at 31 March 2017. It possesses 918 employees comprising 282 officers (Class – A), 547 assistants and clerical staff (Class – B) and 89 subordinate staff (Class – C).

During this 58-year of its existence and functioning, it has sanctioned loans and advances to the tune of ` 152.76 billion to 1,71,414 units. And most importantly, more than 75% of the loan sanctioned by the corporation is for the MSMEs.

Data and Methodology

This study primarily aims at assessing the role of KSFC in providing financial assistant to MSMEs in backward districts and in other/developed districts of the state. For the purpose of analysis and evaluation, six variables/parameters are considered/used. They are, (i) number of units for which loans and advances are sanctioned, (ii) amount of loans

and advances sanctioned, (iii) amount of loans and advances disbursed, (iv) outstanding amount, (v) amount of loans and advances recovered, and (vi) default amount. Each of these parameters is used from the points of view of both backward and other districts separately. It may be noted here that out of six variables/parameters, the first three parameters deal with the evaluation of assistance provided by the corporation to the loanees and the last three deal with the effectiveness of the corporation in recovering the loan sanctioned and disbursed (Figure – 1).

Figure - 1: Variables for Evaluating Industrial Financing and Recovery
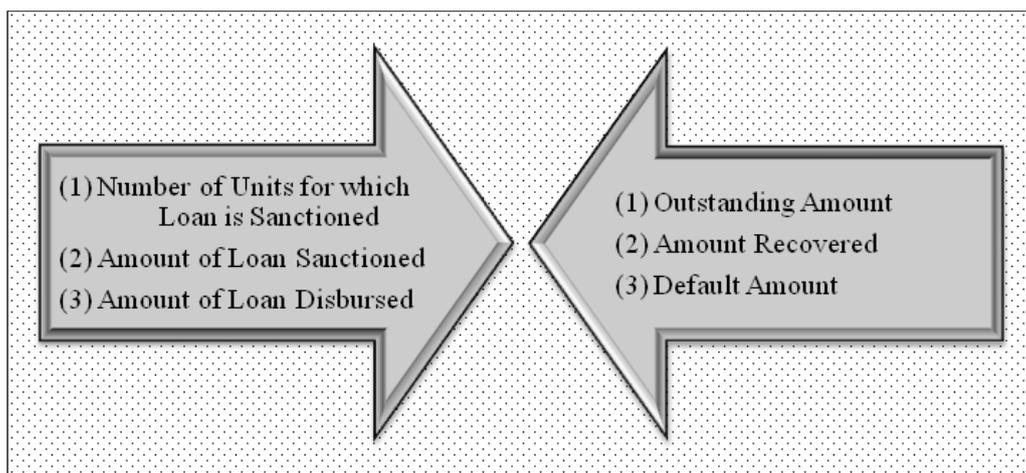
Keeping in mind the objective of the study and also the variables/parameters selected for evaluation, the following null hypotheses are formulated.

(1) H_{01}: There exists no significant difference between the number of units assisted in backward districts and in other districts.

(2) H_{02}: There exists no significant difference between the amount of loan sanctioned for units in backward districts and in other districts.

(3) H_{03}: There exists no significant difference between the amount of loan disbursed for units in backward districts and in other districts.

(4) H_{04}: There exists no significant difference between the outstanding amount from units in backward districts and in other districts.

(5) H_{05}: There exists no significant difference between the amount of loan recovered from units in backward districts and in

other districts.

(6) H_{06}: There exists no significant difference between the default amount from units in backward districts and in other districts.

Major source of data for this study is the Annual Reports and Operational Statistics (yearly publications) of KSFC. Necessary data/material are also collected from a few other secondary sources such as books, published research papers, government publications, websites, etc.

For the purpose of evaluating the role of KSFC (centred around the objective) and also for the purpose of testing hypotheses, performance statistics of KSFC for a period of 10 years, 2007-08 to 2016-17, are collected and used. Further, for analysing and testing the hypotheses, a few descriptive statistics such as Mean, Standard Deviation (SD), Coefficient of Variation (CV), Skewness, etc., and Student's t-test (two-tailed test, t-test; two-sample

assuming equal variances) besides the Compound Annual Growth Rate (CAGR) are used. In parallel to these distributional properties, Grangers Causality Test and Co-integration Test are also applied to achieve the objective of the study in support with the hypotheses.

The districts are classified into backward and developed districts based on a few variables, and a district may fall into backward districts category as per one criterion and the same district may fall into developed districts category based on another criterion. Therefore, classification of districts into backward districts and other/developed districts made and followed by KSFC is used in this study. Accordingly, out of 30 districts, 18 districts (in Karnataka) are classified as backward districts and the remaining 12 districts as other/developed districts (Annexure – 1).

Discussion and Results

In the above backdrop, role of KSFC in assisting industrial units in backward districts as compared to other/developed districts of Karnataka is examined here with an equal importance on the evaluation of recovery performance (i.e., recovery of amount of lent together with interest component). And the relevant performance statistics pertaining to all six variables for ten years and for both backward districts and other districts are presented in Annexure – 2 (tables prepared and presented in the following pages are based on the data in this Annexure).

(1) Sanction of Loan - Units

As is known very well, KSFC is a lending financial institution and its target group is the industrial enterprises with an emphasis on MSMEs. Its business and performance, therefore, depend upon the number of units for which loan is sanctioned. It may be noted here that the number of units assisted (i.e., the units for which loan is sanctioned) signifies the promotional role of KSFC – promoting industrial activities. This also indicates the help provided by the corporation to the industrial units to overcome their financial problem. In this background, based on the data pertaining to the 'number of units for which loan is sanctioned' in Annexure – 2, the following table (Table – 1) is prepared showing the average number of units assisted per district in backward regions (districts) and in other regions (districts) – this 'average number of units' per backward district and per other/developed district is necessary as there is a difference in the number of backward districts (18) and other districts (12). Further, a few calculations made based on these average number of units assisted are also presented in Table – 1 for the purpose of analysis and for testing the first null hypothesis.

Table – 1: Average Number of Units for which Loan is sanctioned per District in Backward Regions and in other Regions

Year	Average number of Units for which Loan is sanctioned per,		Few Descriptive Statistics and Results of Student's *t*-test		
	Backward District	Other District	Particulars	Backward District	Other District
2007-08	33.39	49.50	Sum (per District)	423.50	480.08
2008-09	38.94	59.92	Mean (per District)	42.35	48.01
2009-10	45.06	54.17	CAGR	0.61	−3.41
2010-11	47.67	56.58	SD	6.88	9.07
2011-12	47.11	53.08	CV	16.25	18.88
2012-13	54.44	51.50	Skewness	0.33	−0.51
2013-14	47.33	47.83	*t* Stat = −1.42484 (*dof* = 298; and α = 0.05)		
2014-15	36.17	36.75			
2015-16	37.89	35.75			
2016-17	35.50	35.00			

Source: Compiled the table based on calculations made with the help of relevant data in Annexure - 2

A perusal of relevant data in Annexure-2 (i.e., the data pertaining to the number of units in backward districts and in other districts for which loan is sanctioned)shows that the corporation has sanctioned loans to more number of industrial units in backward districts than in other districts in all years of study period except during 2008-09. However, when the average number of units (for which loan is sanctioned per district in backward area and in other area) is computed, the result shows a different picture (Table – 1).

During this 10-year period, the corporation sanctioned loans and advances to 424 units1 per backward district which works out to 42 units per annum per backward district. And the number of units assisted varied between 33 units (2007-08) and 54 units (2012-13) with CV of 16.25% (and SD of 7 units) indicating no wide variation in the number of units assisted by the corporation from year to another during the study period. The CAGR is positive at 0.61% denoting the overall improvement though the rate of improvement is marginal. This is also supported by the positive skewness value (0.33) signifying that the number of units assisted (in backward districts) is skewed towards positive value than negative value during the study period.

On the other hand, in the case of other districts, the corporation sanctioned loans and advances to 480 units per district during this 10-year period working out to 48 units per annum per district. As the CV is 18.88% (and SD is 9 units), there is no wide variation in the number of units sanctioned with loan (per other district per annum) during the study period. However, CAGR is negative at −3.41% and this indicates overall reduction in the number of units assisted. And the negative skewness value of −0.51indicates that the number of units assisted is skewed towards negative value than positive value during the study period. In spite of these two negative trends, average number of units for which loan is sanctioned by the corporation per annum per other district is higher than for a backward district for all years of study period except three years (2012-13, 2015-16 and 2016-17).

The above analysis clearly brings the point that the corporation is attaching comparatively more importance to backward districts which is desirable as it is an endeavour towards balanced regional development. Besides the

descriptive statistics, student's t-test is used to test whether the means (i.e., mean values of number of units assisted) for backward districts and other districts differ significantly. The results show that the calculated value of t of -1.42484 [with $dof = 298 (i.e., n_1 + n_2 - 2)$; and $\alpha = 0.05$][2] is lower than the critical value of 1.96796. Therefore, the first null hypothesis, H_{01}: 'There exists no significant difference between the number of units assisted in backward districts and in other districts' is tested and accepted. This means that, the difference in the mean values (i.e., mean values of units assisted in backward districts and that in other districts) is statically not significant. However, the facts that CAGR and skewness are positive in the case of backward districts (as against the negative values for the same measures in the case of other districts) indicate the improvement (though not statistically significant) in KSFC's assistance to units in backward districts.

(2) Amount of Loans and Advances Sanctioned

This is another important parameter used for comparing the amount of loan sanctioned for enterprises in backward districts with that in other districts. Based on the loan proposals by the entrepreneurs/industrial units and their appraisal by a team of experts of KSFC, the corporation sanctions loan to the applicant-units. Of course, collaterals offered, worthiness of units, potentiality of projects, etc., are considered by the experts of the corporation before recommending (or not recommending) for the sanction of loan. Based on this recommendation, competent authority of the corporation takes the decision either to sanction (full loan amount sought by the applicant-unit or reduced amount) or not to sanction the loan. In this backdrop, the relevant data (together with a few calculations) are presented below (Table – 2) besides the relevant data (i.e., amount of loan sanctioned) presented in Annexure – 2 for analysis and for testing the second null hypothesis.

Table – 2: Average Amount of Loan Sanctioned (for Industrial Units) per Backward District and per other District

Year	Average Amount (₹ millions) of Loan Sanctioned (for units) per,		Few Descriptive Statistics and Results of Student's t-test		
	Backward District	Other District	Particulars	Backward District	Other District
2007-08	79.30	187.84	Sum (per District)	1,977.57	2,956.69
2008-09	126.61	281.12	Mean (per District)	197.76	295.67
2009-10	149.38	302.17	CAGR	9.92	4.96
2010-11	193.75	319.07	SD	67.20	49.28
2011-12	213.91	360.24	CV	33.98	16.67
2012-13	297.02	341.18	Skewness	−0.16	−1.14
2013-14	290.88	321.39	t Stat $= -2.53745$ ($dof = 298$; and $\alpha = 0.05$)		
2014-15	210.81	246.40			
2015-16	211.71	292.38			
2016-17	204.19	304.95			

Source: Compiled the table based on calculations made with the help of relevant data in Annexure - 2

The amount of loan sanctioned registered a continuous increase during the first 4 – 5 years followed a continuous decline for 2-3 years and finally, moving in both the directions. This is true with regard to both backward and other districts (Annexure–2, Amount of Loan Sanctioned). Further, during the first five years of the study period (2007-08 to 2011-12), the amount of loan sanctioned for units in 18 backward districts is much lower than for units in 12 other districts. Of course, during the last five years of the study period (2012-13 to 2016-17), it (i.e., amount of loan sanctioned) is reversed (i.e., amount of loan sanctioned for units in backward districts is higher than that in other districts). Most importantly, the gap between the amount of loan sanctioned for units in backward districts and that in other districts has declined during the last three years of the study period (2014-15 to 2016-17).

For further analysis, amount of loan sanctioned per annum per district is computed and presented in Table-2.During the first 5-6 years, though the amount of loan sanctioned per district registered a continuous increase in both the categories of districts (i.e., backward and other districts), the amount of loan sanctioned per backward district is much lower than that for other district for all 10 years. In the case of backward districts, the corporation sanctioned a sum of '1,977.57 million of loan per backward district during this 10-year period working out to '197.76 million per annum per backward district varying from '79.30 million (2007-08) to '297.02 million (2012-13) with CV of 33.98% (and SD of ˙67.20 million) showing comparatively (i.e., compared to other districts) higher variation but not wide variation in the amount of loan sanctioned from one year to another. And the CAGR works out to 9.92% [which is higher (double) than for other districts]. But the negative skewness −0.16 indicates that the amount of loan sanctioned for backward districts is skewed towards negative value than positive value during the study

period. However, this negative value is much lower than for other districts (of −1.14).

On the other hand, for (units in) other districts, the corporation sanctioned a loan of '2,956.69 million during this 10-year period which works out to '295.67 million per other district per annum varying from '187.84 million (2007-08) to '360.24 million (2011-12) with CV of 16.67% (and SD of ˙49.28 million) indicating no wide variation from one year to another. However, CAGR is lower at 4.96%.Further, comparatively higher negative skewness value of −1.14 indicates that the amount of loan sanctioned is skewed towards negative value than positive value during the study period.

From the above, it is obvious that both higher CAGR and lower negative skewness in the case of backward districts when compared to other districts indicate the preference accorded by the corporation for enterprises in backward districts. Besides these descriptive statistics, student's t-test is used to test whether the mean values of amounts of loan sanctioned for units in backward and other districts differ significantly. The test results show that they (mean values) do not differ significantly as the calculated value of t of−2.53745 (with dof = 298; and α=0.05) is lower than the critical value of 1.96796. Hence, the second null hypothesis, H_{02}: *'There exists no significant difference between the amount of loan sanctioned for units in backward districts and in other districts'* is tested and accepted. Still, the CAGR in the case of backward districts is higher and the negative skewness value is much lower than that for other districts. These indicate comparatively higher improvement (though the improvement is statistically not significant) in the amount of loan sanctioned for enterprises in backward districts (compared to other districts).

(3) Amount of Loan Disbursed

From the point of view of lending institutions such as KSFC, the amount of loan

disbursed is more important than the amount of loan sanctioned. This is because of the reason that the corporation, in the sanction letter, may put a few additional conditions, and only when the applicant-unit fulfills these conditions, the amount of loan sanctioned is released/disbursed that too in instalments in a phased manner as the work on the project progresses. As a result, a part of the amount of loan sanctioned in the current year may be disbursed during next year/s. Similarly, a part of the loan sanctioned during the previous year/s may be released during the current year. Hence, one can find the difference between the amount of loan sanctioned in a year and the amount of loan disbursed in that year. The second important reason (as to why the amount of loan disbursed is more important than the amount of loan sanctioned) is that the corporation earns interest income (major component of its total income) on the amount of loan disbursed but not on the amount of loan sanctioned. And most importantly, industrial / business enterprises earn / receive the interest income on the amount of loan disbursed by the lender-institutions.

In the light of the above, and in addition to the relevant data presented in Annexure – 2 (Amount of Loan Disbursed), the amount of loan disbursed per district (for both the categories – units in backward districts and in other districts separately, and also for units in all districts) per annum is computed and presented below (Table – 3) together with a few descriptive statistics and test results for analysis and for the purpose testing the third null hypothesis.

Table – 3: Average Amount of Loan Disbursed (for Industrial Units) per Backward District and per other District

Year	Average Amount (₹ millions) of Loan Disbursed per,		Few Descriptive Statistics and Results of Student's *t*-test		
	Backward District	Other District	Particulars	Backward District	Other District
2007-08	60.21	162.28	Sum (per District)	1,536.80	2,257.69
2008-09	85.82	191.20	Mean (per District)	153.68	225.77
2009-10	106.75	201.87	CAGR	11.19	4.46
2010-11	152.68	254.65	SD	55.04	35.59
2011-12	164.88	250.25	CV	35.81	15.76
2012-13	224.89	274.93	Skewness	−0.36	−0.44
2013-14	228.25	247.19	*t* Stat = −2.52033(*dof* = 298; and *α* = 0.05)		
2014-15	174.02	200.33			
2015-16	165.42	223.84			
2016-17	173.89	251.15			

Source: Compiled the table based on calculations made with the help of relevant data in Annexure - 2

The amount of loan disbursed for backward and other districts registered a continuous increase initially followed by movement in both the directions. However, for the first five years, the amount of loan disbursed for units in 18 backward districts is lower than for those in 12 other districts. And in the last five years of the study period, it is reversed (Annexure- 2, Amount of Loan Disbursed). But the analysis based on the amount of loan disbursed per backward district and per other district (for industrial units as presented in Table – 3 above) provides a greater insight into this aspect.

In the case of backward districts, the amount of loan disbursed (for industrial units) per backward district is much lower than (for industrial units) per other district for all years of the study period. During the initial six years (2008-09 to 2013-14), the amount of loan disbursed per backward district registered a continuous increase. During this 10-year period, the corporation disbursed ₹ 1,536.80 million of loan per backward district (for industrial units) with an annual average of ₹ 153.68 million varying from ₹ 60.21 million (2007-08) to ₹ 228.25 million (2013-14) with CV of 35.81% and SD of ₹ 55.04 million. And the CAGR works out to 11.19% implying overall improvement in the amount of loan disbursed. However, the negative skewness (−0.36) indicates that the amount of loan disbursed is skewed towards negative value than positive value during the study period.

On the other hand, in the case of other districts, continuous increase can be observed till the end of 2010-11 followed by movement in both the directions. But the amount of loan disbursed, on an average, to each other district during this 10 - year period amounts to ₹ 2,257.69 million with a mean value of ₹ 225.77 million (i.e., per other district per annum) ranging from ₹ 162.28 million (2007-08) to ₹ 274.93 million (2012-13) with CV of 15.76% (and SD o f ₹ 35.59 million) indicating no wide variation from one year to another. Though there is an overall growth in the amount of loan disbursed per other district as the CAGR is 4.46%, it is much lower when compared to 11.19% CAGR registered by backward districts. Further, negative skewness value (−0.44) signifies that it (i.e., the amount of loan disbursed) is skewed towards negative value than the positive value during the study period.

It is obvious from the above that the rate of increase (CAGR) in the amount of loan disbursed tilted towards backward districts.

Besides these descriptive statistics, student's t-test is used for the purpose of testing whether there is a significant difference in the mean values (of amounts of loan disbursed per backward district and per other district). As the calculated value of t of −2.52033 (with dof = 298; and α=0.05) is lower than the critical value of 1.96796, the third null hypothesis, H_{03}: **'There exists no significant difference between the amount of loan disbursed for units in backward districts and in other districts'** is tested and accepted. However, comparatively higher CAGR and lower (negative) skewness in the case of backward districts signify the improvement (though not statistically significant improvement) in the assistance of KSFC for units in the backward districts as compared to the units in other districts.

From the above analysis using three variables / parameters / hypotheses pertaining to the provision of financial assistance by the corporation to the industrial units, it is obvious that the corporation is providing comparatively more importance to the backward districts when compared to other districts. Of course, the difference between backward and other districts in all the three variables / parameters / hypotheses is statistically not significant. But still, this preference encourages and supports economic activities which in turn contributes to the reduction of regional imbalances in whatever little way it can.

RECOVERY/REPAYMENT

After evaluating the role of KSFC in assisting the industrial units in backward districts and in other districts, an attempt is made now to examine the effectiveness with the corporation is recovering the amount due from loanees. This also enables to assess whether the repayment of loans and advances is influenced by the development of region. However, for the purpose of evaluating the recovery performance, as already stated, three more

parameters viz., outstanding amount, amount recovered, and default amount are used.

(1) Outstanding Amount

It may be noted here that the outstanding amount represents the interest-bearing unpaid amount of a loan or loan portfolio. The outstanding amount is normally averaged over a period of one month. This comprises term loan, instalment amount, revolving debt, interest due, etc. Higher the outstanding amount, lower is the amount available for credit recycling. It also results in the reduction in the interest income, net interest income, etc., on the one hand, and increase in Provision against non-performing assets (NPAs) on the other – all affecting the profitability of lenders adversely. In this background, an attempt is made here to examine the outstanding amount from industrial units in backward districts and that in other districts. A few relevant data are presented in Annexure – 2 (Outstanding Amount). Besides, the outstanding amount (average) from each backward district (i.e., units in backward districts) and from each other district (i.e., units in other districts) is computed and presented below (Table – 4) together with a few descriptive statistics and results of t-test for further analysis and for testing the fourth null hypothesis. It may be noted here that the outstanding amounts presented in Annexure – 2 and in Table - 4 are as at the end of the accounting period and therefore, the amounts are cumulative.

Table – 4: Average Outstanding Amount per Backward District and per other District

As at 31 March,	Average Outstanding Amount (₹ millions) per,		Few Descriptive Statistics and Results of Student's *t*-test		
	Backward District	Other District	Particulars	Backward District	Other District
2008	268.03	601.81	Mean (per District)	444.73	703.51
2009	295.80	636.79	CAGR	7.36	1.27
2010	311.95	660.52	SD	123.85	67.49
2011	377.56	725.72	CV	27.85	9.59
2012	426.46	772.84	Skewness	−0.30	0.23
2013	515.63	798.14	*t* Stat = −3.04975(*dof* = 298; and α = 0.05)		
2014	590.59	795.96			
2015	565.14	675.53			
2016	550.73	684.81			
2017	545.38	682.98			

Source: Compiled the table based on calculations made with the help of relevant data in Annexure - 2

Interpretation of performance of KSFC (and that of loanees) from the point of view of outstanding amount is a little complicated task. This is due to two important reasons – one, increase in the outstanding amount may reflect the increase in the amount of loan disbursed, and two, it may also reflect on the failure of the corporation to recover the amount due from loanees and/or failure of loanees to repay the borrowed amount. However, the second interpretation is widely used in the financial circle.

During the first 5 – 6 years, outstanding amount registered a continuous increase and thereafter, the change differs from backward districts to other districts. Again, the outstanding amount from units

in backward districts is lower than that from other districts up to 31 March 2013 and thereafter, it is reversed. Total outstanding amount as at 31 March 2017 is ₹ 18,012.59 million comprising ₹ 9,816.85 million (54.50%) from units in backward districts and the remaining ₹ 8,195.74 million (45.50%) from units in other districts.

But the outstanding amount per backward district is lower than that per other district for all years of the study period. In the case of backward districts, the outstanding amount per district increased continuously up to 31 March 2014 but thereafter, it registered a continuous reduction. However, it increased from ₹ 268.03 million (31 March 2008) to ₹ 545.38 million by 31 March 2017 with an annual a v e r a g e   o f ₹ 444.73 million with CV of 27.85% and SD of ₹ 123.85 million. Consequently, CAGR works out to 7.36%. And the skewness is −0.30 indicating that the outstanding amount is skewed towards negative value than positive value during the study period.

More or less, a similar type of trend can be observed even in the case of other districts. In this case, average outstanding amount works out to ₹ 703.51 million per district with CV 9.59%and SD of ₹ 67.49 million indicating no wide variation. And the CAGR is 1.27%and the skewness value is positive at 0.23 indicating the outstanding amount skewing towards positive value than negative value during the study period.

From the above, it is obvious that the amount of loans and advances outstanding has increased during this 10-year period. However, the rate of increase differs from backward districts (CAGR 7.36%) to other districts (CAGR 1.27%). And there is comparatively wide variation in the outstanding amounts (from one year to another during the study period) from units in backward districts

(CV = 27.85%) than that in other districts (CV = 9.59%). Again, the results of student's t-test show that there is no significant difference between the mean values of outstanding amount from units in backward districts and that from units in other districts as the calculated value of t of −3.04975 (with dof = 298; and α=0.05) is lower than the critical value of 1.96796. Hence, the fourth null hypothesis, H_{04}: 'There exists no significant difference between the outstanding amount from units in backward districts and in other districts' is tested and accepted.

(2) Recovery Performance

This is another important variable/parameter as the performance of the corporation is largely influenced by the effectiveness with which it recovers the amount (both principal and interest) from the loanees. This is because of many reasons – ability to recycle the fund for further lending, ability to earn higher net interest income (which enables the corporation to meet its non-interest costs and to earn some commercial surplus), etc., depend upon the recovery performance. Further, this (recovery) has a direct impact on the default amount (of course, relationship is inverse). It (i.e., recovery) also shows the promptness with which the loanees are repaying the borrowed amounts. It may be noted here that the amount of loan recovered during a year usually comprises the amount of loan disbursed not only during the current year but also during the previous year/s depending upon the terms of credit including the credit period. In this backdrop, a few data are presented in Annexure – 2 (Amount of Loan Recovered). Based on these performance statistics, the amount of loan recovered from each backward district (average) and from each of other districts (average) is presented below (Table – 5) together with a few descriptive statistics and the results of student's t-test for analysis and for the purpose of testing the fifth null hypothesis.

Table – 5: Average Amount of Loan Recovered from (units in) each Backward District and from (units in) each other District

Year	Average Amount (₹ millions) of Loan Recovered (from units) per,		Few Descriptive Statistics and Results of Student's *t*-test		
	Backward District	Other District	Particulars	Backward District	Other District
			Sum (per District)	1,801.76	2,511.85
2007-08	105.49	150.70	Mean (per District)	180.18	251.19
2008-09	104.43	146.99	CAGR	9.4	8.76
2009-10	124.45	148.89	SD	63.16	93.45
2010-11	127.25	173.15	CV	35.05	37.2
2011-12	162.09	205.54	Skewness	0.07	−0.02
2012-13	194.42	357.22	*t* Stat = −2.10175(*dof* = 298; and α = 0.05)		
2013-14	224.90	352.92			
2014-15	239.31	317.38			
2015-16	260.49	310.19			
2016-17	258.93	348.87			

Source: Compiled the table based on calculations made with the help of relevant data in Annexure - 2

The amount of loan recovered registered a continuous increase for 4 – 5 years either at the end of the study period (backward districts) or in the middle of the study period (other districts). During this 10-year period, the corporation recovered ₹ 62,573.92 million comprising ₹ 32,431.74 million from units in backward districts (51.83%) and ₹ 30,142.19 million from units in other districts (48.17%). As the number of districts differs from backward to other districts, average amount of loan recovered per backward district and per other district (i.e., units in backward districts and in other districts) is analyzed below (based on Table – 5).

In the case of units in backward districts, the corporation recovered ₹ 1,801.76 million per district (from units) during this 10-year period which works out to ₹ 180.18 million per annum per district ranging from ₹ 104.43 million (2008-09) to ₹ 260.49 million (2015-16) with CV 35.05% and SD of 63.16 million. Further, the CAGR works out to 9.40% and the skewness is positive (0.07) showing that the amount of loan recovered is skewed towards positive value than negative value during the study period. This is a good sign as it, on an average, indicates the improvement in loan recovery from units in backward districts. These results also signify that the units in backward districts are improving their repayments over the years.

On the other hand, in the case of units in other districts, total loan recovered per district during this 10-year period amounted to ₹ 2,511.85 million with an annual average of ₹ 251.19 million per district (other districts) with CV of 37.20% and SD of ₹ 93.45 million. Though

CAGR is at 8.76%, the negative skewness value (−0.02) indicates that the amount of loan recovered from units in other districts is skewed towards negative value than positive value.

It is obvious from the above that the recovery performance is comparatively better in the case of units in backward districts. Besides the descriptive statistics, student t-test is carried out. The results indicate that there is no significant difference between the mean values for units in backward districts and that in other districts(from the point of view of amount of loan recovered) as the calculated value of t of−2.10175 (with dof = 298; and α=0.05) is lower the critical value of 1.96796. Therefore, the mean values do not differ significantly. Hence, the fifth null hypothesis, H_{05}: 'There exists no significant difference between the amount of loan recovered from units in backward districts and in other districts' is tested and accepted. Still, the positive skewness value (for backward districts) and comparatively higher CAGR (for units in backward districts) indicate that the amount of loan recovered is skewed towards positive value than negative value which is a good sign for the corporation. These results also show the comparatively higher growth rate in repayment by the units in backward districts.

(3) Default Amount

To a greater extent, the success of any lender-corporation depends upon its ability to keep the default amount (both the principal and the interest) at zero level which is, of course, a challenging task. However, attempts should be made by the lenders to reduce the default amount. It may be noted here that 'default' represents the 'non-payment of debt when whole or any part or instalment of the amount of debt has become due and payable, and is not repaid by the debtor or the corporate debtor, ….' (Ministry of Law and Justice, 2016). In this backdrop, the relevant details are presented in Annexure – 2 (Default Amount) and also in the following table (Table – 6) together with a few descriptive statistics and the results of student t-test for analysis and for testing the last null hypothesis.

Table – 6: Average Default Amount (from Units) per Backward District and per other District

As at 31 March,	Average Default Amount (₹ millions) (from units) per,		Few Descriptive Statistics and Results of Student's *t*-test		
	Backward District	Other District	Particulars	Backward District	Other District
2008	85.21	194.42	Mean (per District)	55.98	115.42
2009	60.96	143.96	CAGR	−6.84	−10.65
2010	76.01	124.38	SD	18.99	46.85
2011	70.57	144.85	CV	33.92	40.59
2012	55.12	129.52	Skewness	−0.21	−0.23
2013	56.37	127.79	*t* Stat = −2.96180(*dof* = 298; and α = 0.05)		
2014	57.20	125.02			
2015	25.82	41.47			
2016	30.62	59.71			
2017	41.97	63.09			

Source: Compiled the table based on calculations made with the help of relevant data in Annexure - 2

The corporation has achieved a commendable success in this area as it has brought down the default amount from ₹ 3,866.86 million as at 31 March 2008 (comprising ₹ 1,533.79 million of default amount from units in backward districts, 39.67%; and the remaining ₹ 2,333.07 million of default amount from units in other districts, 60.33%) to ₹ 1,512.43 million [comprising ₹ 755.40 million of default amount from units in backward districts (49.95%); and the remaining ₹ 757.03 million of default amount from units in other districts (50.05%)] by the end of the study period. This reduction works out to ₹ 2,354.43 million or 60.89%. But there is no consistency in its performance.

However, the amount of default (from units) per backward district declined from ₹ 85.21 million as at the end of the first year of the study period to ₹ 41.97 million by the end of the last year of the study period accounting for a reduction by ₹ 43.25 million or by 50.75%. The mean value of default amounts to ₹ 55.98 million and the amount of default at the end of one year to another year per backward district varied between ₹ 25.82 million (31 March 2015) and ₹ 85.21 million (31 March 2008) with CV of 33.92% and SD of ₹ 18.99 million. As a result of all these, the CAGR is negative at −6.84% and the skewness is also negative (−0.21). Both the negative values are desirable as they indicate improvement in the recovery performance of KSFC. This also shows the improvement in the repayment of loans and advances by the loanee-units in backward districts.

Similarly, in the case of other districts, default amount (from units) per district varied between ₹ 41.47 million (31 March 2015) and ₹ 194.42 million (31 March 2008) with an average of ₹ 115.42 million and with CV of 40.59% and

SD of ₹ 46.85 million. Overall, there is a reduction – declining from ₹ 194.42 million as at 31 March 2008 to ₹ 63.09 million by 31 March 2017, and therefore, the CAGR is negative at −10.65% and the skewness is −0.23 indicating the amount of default from units in other districts skewed towards negative value than positive value during the study period – both are desirable changes.

It is obvious from the above that the performance of KSFC is highly appreciable. However, it is difficult to say whether the recovery performance is better in the case of units in backward districts or that in other districts as different results provide different interpretation. However, for the purpose of testing whether the mean values (of default amounts) for units in backward and in other districts differ significantly, student's t-test is used. The results show that the mean values do not differ significantly as the calculated value of t is −2.96180 (with $dof = 298$; and $\alpha = 0.05$) is lower than the critical value of 1.96796. Therefore, the last null hypothesis, H_{06}: 'There exists no significant difference between the default amount from units in backward districts and in other districts' is tested and accepted.

It is obvious from the above three parameters pertaining to the recovery that the performance of the corporation is, more or less, same between backward districts and other districts.

Grangers Causality and Johansen Co-integration Tests

Out of six hypotheses, four hypotheses pertaining to the amount of loan disbursed, outstanding loan amount, amount of loan recovered and default amount are also tested with Grangers Causality Test and Co-integration Test. It may be noted here that all the first three variables/hypotheses relate one

important aspect viz., financial assistance. Of these three, the last one viz., amount of loan disbursed is more important when compared to the first two variables/ hypotheses viz., number of units assisted and amount of loan sanctioned. Therefore, only the last variable/hypothesis (besides the last three pertaining to recovery) is selected for further analysis and testing. However, these Tests also confirm the conclusions drawn earlier as evident from the following.

(1) Grangers Causality Test

Grangers Causality Test is the test used to examine the patterns of correlation or cause and effect relationship between variables. Test results of Grangers Causality for four series/parameters in backward and other districts are presented in Table – 7.

Table – 7: Results of Grangers Causality Test

Series (Parameter)	Hypothesis	F-Statistic	Prob.
Loan Disbursed (Table-3)	Other district does not Granger cause backward district	1.61074	0.3348
	Backward district does not Granger cause other district	1.28737	0.3948
Outstanding Amount (Table-4)	Other district does not Granger cause backward district	2.54307	0.2260
	Backward district does not Granger cause other district	1.29354	0.3935
Loan Recovered (Table-5)	Other district does not Granger cause backward district	0.52543	0.6373
	Backward district does not Granger cause other district	3.51180	0.1637
Default Amount (Table-6)	Other district does not Granger cause backward district	0.05873	0.9440
	Backward district does not Granger cause other district	0.35976	0.7244

Source: Data in Tables – 3, 4, 5, and 6 are processed through E-views Software Package

It is obvious from the above table (Table – 7) that the probability values are statistically insignificant at 5% level of significance and therefore, the null hypotheses of Granger Causality are accepted in all the cases implying no significant difference between backward and other districts from the point of view of each of the four parameters/hypotheses viz., loan disbursed, loan outstanding, loan recovered and default amount. This also implies that the amounts (disbursed, outstanding, recovered and default) are not influenced by the degree of development of region/district.

(2) Co-integration Test

Johansen Co-integration Test is performed to examine the level of co-integration between backward districts and other districts in terms of amount of loan disbursed, outstanding loan amount, amount of loan recovered and the loan amount defaulted by the borrowers to the corporation. The Test results of Johansen Co-integration in terms of Trace Test and Maximum Eigen Value are presented below(Table–8).

Table – 8: Results of Johansen Co-integration Test

Series/ Parameter	Test Type	Hypothe-sized No. of CE(s)	Eigen Value	Trace Statistic/ Maximum Eigen Value	0.05 Critical Value	Prob.[2]
Loan Disbursement	Trace Test	None	0.730455	17.14970	20.26184	0.1270
		At most 1	0.565123	6.66154	9.164546	0.1455
	Maximum Eigen Value	None	0.730455	10.48816	15.89210	0.2920
		At most 1	0.565123	6.66154	9.164546	0.1455
Outstanding Amount	Trace Test	None	0.779620	19.04545	20.26184	0.0728
		At most 1	0.580326	6.94622	9.164546	0.1293
	Maximum Eigen Value	None	0.779620	12.09923	15.89210	0.1803
		At most 1	0.580326	6.94622	9.164546	0.1293
Loan Recovery	Trace Test	None[1]	0.962762	31.63272	20.26184	0.0009
		At most 1	0.485037	5.30928	9.164546	0.2512
	Maximum Eigen Value	None[1]	0.962762	26.32344	15.89210	0.0008
		At most 1	0.485037	5.30928	9.164546	0.2512
Default Amount	Trace Test	None	0.613424	9.46243	20.26184	0.6923
		At most 1	0.207353	1.85902	9.164546	0.8056
	Maximum Eigen Value	None	0.613424	7.60341	15.89210	0.5956
		At most 1	0.207353	1.85902	9.164546	0.8056

Notes:
(1) Denotes rejection of hypothesis at 0.05 level
(2) MacKinnon-Haug-Michelis (1999) p-values
Source: Data processed through E-views Software Package

It is evident from the above table that there are no co-integrating equations at 'none' and 'at most 1', both in Trace Test and Maximum Eigen Value Test except for the series, 'average loan amount recovered'. For other three series/parameters, no single co-integrating equations are observed. But, for the loan amount recovered, both in Trace Test and Maximum Eigen Value Test, one co-integrating equation is found at 'None' level indicating that there is some relationship between backward districts and other districts in terms of amount of loan recovered. Though single co-integrating equations are observed, no strong relationship is evidenced through the co-integration test. Hence, the null hypotheses are accepted in all the four cases.

Summary of Major Findings and Suggestions

From the point of view of all six variables viz., number of units assisted, amount of loan sanction, amount of loan disbursed, outstanding amount, amount recovered and default amount, there is no significant difference between the backward districts and other districts.

Though the general impression is that the governments are according priority while sanctioning loans and advances to the industrial enterprises from backward regions, factual analysis shows that it is not so impressive. Of course, in spite of overall reduction in the number of units for which the corporation sanctioned loans, there is a marginal increase in the number of units from backward districts assisted as reflected by both the CAGR (0.61%) and positive skewness (0.33).

Similarly, in the case of amount of loan sanctioned for units in backward districts, the CAGR is higher at 9.92% (as against only 4.96% in the case of other districts) and the negative skewness value(−0.16) is less than for other districts (−1.14). This indicates the difference (in favour of units in backward districts) between backward and other districts though the difference is statistically not significant. More or less, the same analogous can be observed in the case of amount of loan disbursed.

As far as the outstanding loan amount from units in backward districts is concerned, it has registered a CAGR of 7.36% (as against only 1.27% in the case of other districts). This is both desirable and not desirable – desirable as it indicates the increase in the amount of loan provided i.e., increase in the volume of business of the corporation; and not desirable as it indicates increase in the amount due.

Both CAGR (9.4%) and Skewness (0.07) for units in backward districts (as compared to 8.76% and −0.02 respectively for units in other districts) indicate higher improvement in the recovery of amount due from units in backward districts.

In the case of default amount, the rate of reduction (as reflected by CAGR in the case of units in backward districts) is low (−6.84%) and the negative skewness value (−0.21) is also low (as compared to −10.65% and −0.23 respectively in the case of units in other

districts). This should be a matter of concern for the corporation.

In the light of above factual analysis and findings, it is necessary for the corporation to focus on the backward area with greater vigour. And at the same time, it should also take maximum care to ensure systematic and objective credit appraisal and to obtain adequate collateral for the loan sanctioned and disbursed. Continuous monitoring of progress in the projects assisted by the corporation enables it (i.e., the corporation) to improve its recovery performance and to lower the default amount.All these improve the financial results/performance of the corporation.

CONCLUSION

The corporation is providing comparatively higher assistance for units in backward districts than for units in other/developed districts in Karnataka state though the difference is not statistically signification. And even from the point of view of recovery, units in backward districts have a slight edge over their counterparts in other districts (e.g., CAGR of 9.4% and 8.78% respectively). And the effort of the corporation from the points of view both the sets of parameters is appreciable.

Notes

(1) While analyzing the number of units assisted with the sanction of loan, it (i.e., number of units) is rounded-off to the nearest integer.

(2) For the purpose of determining the t value, details for each of 18 backward districts and for each of 12 other districts for 10 years are considered. Hence, n1 = (18 backward districts × 10 years) = 180 and n2 = (12 other districts × 10 years) = 120. Therefore, dof = (n1 + n2 − 2) = (180 + 120 − 2) = 298.

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Annexure – 1

List of Backward and other Districts

Sl. No.	Backward Districts	Sl. No.	Other/Developed Districts
(1)	Bagalkot	(1)	Ballari
(2)	Belagavi	(2)	Bengaluru (Rural)
(3)	Bidar	(3)	Bengaluru (Urban)
(4)	Chamarajanagar	(4)	Chickballapur
(5)	Gadag	(5)	Chikkamagaluru
(6)	Hassan	(6)	Chitradurga
(7)	Haveri	(7)	Davanagere
(8)	Hubballi	(8)	Kolar
(9)	Kalaburgi	(9)	Madikeri
(10)	Karwar	(10)	Mandya
(11)	Koppal	(11)	Ramanagar
(12)	Mangaluru	(12)	Shivamogga
(13)	Mysuru		
(14)	Raichur		
(15)	Tumakuru		
(16)	Udupi		
(17)	Vijayapura		
(18)	Yadgir		

Source: Compiled on the basis of the details collected from the
Annual Report and Operational Statistics, KSFC, 2016-17

Performance Statistics of KSFC, 2007-08 to 2016-17 (` millions)

Variables	Districts	Year				
		2007-08	2008-09	2009-10	2010-11	2011-12
Number of Units for which Loan is Sanctioned	Backward	601.00	701.00	811.00	858.00	848.00
	Other	594.00	719.00	650.00	679.00	637.00
	Total	1,195.00	1,420.00	1,461.00	1,537.00	1,485.00
Amount of Loan Sanctioned	Backward	1,427.43	2,279.03	2,688.81	3,487.47	3,850.33
	Other	2,254.08	3,373.40	3,626.06	3,828.80	4,322.84
	Total	3,681.51	5,652.43	6,314.87	7,316.27	8,173.17
Amount of Loan Disbursed	Backward	1,083.86	1,544.72	1,921.44	2,748.21	2,967.76
	Other	1,947.40	2,294.44	2,422.41	3,055.85	3,003.02
	Total	3,031.26	3,839.16	4,343.85	5,804.06	5,970.78
Outstanding Amount at the year end	Backward	4,824.54	5,324.34	5,615.04	6,796.08	7,676.29
	Other	7,221.67	7,641.44	7,926.25	8,708.58	9,274.10
	Total	12,046.21	12,965.78	13,541.29	15,504.66	16,950.39
Loan Amount Recovered from Units in,	Backward	1,898.78	1,879.79	2,240.13	2,290.42	2,917.68
	Other	1,808.38	1,763.93	1,786.72	2,077.80	2,466.42
	Total	3,707.16	3,643.72	4,026.85	4,368.22	5,384.10
Default Amount at the year end	Backward	1,533.79	1,097.21	1,368.23	1,270.30	992.21
	Other	2,333.07	1,727.54	1,492.55	1,738.20	1,554.19
	Total	3,866.86	2,824.74	2,860.78	3,008.50	2,546.40
		2012-13	2013-14	2014-15	2015-16	2016-17
Number of Units for which Loan is Sanctioned	Backward	980.00	852.00	651.00	682.00	639.00
	Other	618.00	574.00	441.00	429.00	420.00
	Total	1,598.00	1,426.00	1,092.00	1,111.00	1,059.00
Amount of Loan Sanctioned	Backward	5,346.42	5,235.88	3,794.63	3,810.83	3,675.40
	Other	4,094.13	3,856.72	2,956.84	3,508.53	3,658.86
	Total	9,440.55	9,092.60	6,751.47	7,319.36	7,334.26
Amount of Loan Disbursed	Backward	4,047.95	4,108.42	3,132.29	2,977.62	3,130.03
	Other	3,299.10	2,966.26	2,403.95	2,686.02	3,013.75
	Total	7,347.05	7,074.68	5,536.24	5,663.64	6,143.78

Source: Compiled based on data from the
Annual Reports and Operational Statistics, KSFC, 2007-08 to 2016-17