Performance of Employees' State Insurance Scheme in Kerala

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Abstract: *Employment insurance scheme is a contributory social security measure for the employees and their dependents in the organization sector. The outflow and inflow of funds of ESI Scheme is managed by ESI Corporation. The main element of income of ESIC is its contribution from employees and employers. The ESI scheme was implemented in Kerala on 16th September 1956 and as on 31st March 2018the coverage of the scheme in Kerala is 45,493 employers, 9,89,350 employees and 42,34 206 beneficiaries. Performance is evaluated by examining the trend and growth of the income and expenditureof ESI scheme in Kerala. Regression and semi-log growth models are used for the analysis. All components of income and expenditure of ESIC show a positive growth rate during the study period. It is also pointed out that there is a lag in the utilization of benefits, because less than 50 percent of theoverall contribution is only used for the wellbeing of the employees for the last 10 years. So the studyis an insight to increase the awareness and satisfaction level of the employees for availing the benefits of the ESI scheme in a productive way.*
Key Words: ESIC, ESI Scheme, Contribution, Benefits
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I. INTRODUCTION

Social security is a dynamic concept that aims at upholding the human dignity through participatory approach and collective social action in the event of economic distress and physical suffering arising from death, disease and disablement.The ESI Act of 1948 was the first social security legislation in India. It provided an integrated social insurance scheme known as Employees' State Insurance Scheme which came into operation on February 24, 1952. It was the first major social security scheme in South-East Asia to provide social protection to workers in the organized sector in their contingencies. It is a self- financing scheme as contributions are raised from employees and employer at a certain percentage of their wages. The central government of India established ESI Corporation to regulate the functioning of the scheme under the provisions of the ESI Act and it is an autonomous corporation under the Ministry of Labour and Employment, Government of India.The ESI scheme was first implemented in the state of Kerala on 16th September 1956 and the Corporation has its regional office at Thrissur and sub-regional offices at Kollam, Eranakulam, Kozhikode and Thiruvanadhapuram. Kerala region has 54 branch offices for disbursing cashbenefits andthere are 141 dispensaries and 12 hospitals for providing the medical services. This paper is an attempt to analyze the trend and growth of ESI scheme in Kerala from 2007-08 to 2016-17.

II. REVIEW OF LITERATURE

Pujari S. (2018) studied about the welfare schemes of ESI. Main objectives of the study were to understand the regulations, allowances, schemes and the benefits derived by the employees through ESI. She opined that ESI scheme create social security among employees and plays a great role in influencing the subscribers to of such benefits. She suggested that basic infrastructure of the existing facilities could be improved to provide a higher quality of service to the beneficiaries and implement these benefits to all private sector employees irrespective of income levels, so as to protect the employees from being cheated by the private organizations.

Asha, Lekshmi and Nayana(2017) made an attempt to understand the satisfaction of public sector textile workers towards ESI scheme and benefits. The study revealed that most of the employees are not satisfied with the benefits and services they are availing under ESI. It is proposed that ESIC should take the essential steps to develop the awareness about ESI scheme among employees and should increase the quality of medical care provided through ESI dispensaries and hospitals.

Parri and Renjithkumar(2016) tried to identify the awareness and utilization of ESI benefits and problems encountered from the use of ESI dispensaries in Erode district, Tamilnadu. They found out that the lack of medicines and other facilities for treatment, lack of doctors and misbehavior of supporting staff were ranked as the most burning problems faced by insured persons from ESI dispensaries. Poor medical care and poor attention are the main reasons for not utilizing the medical benefits under the ESI scheme after retirement. They suggested that to improve the function of various boards like regional, local and departments like inspectorate, ESI courts to develop better co-ordination among various stakeholders of ESI.

Statement of the Problem

ESI Corporation is the first institution for providing social security and health insurance to the employees in India. As on 31st March 2018, the coverage of the scheme in Kerala is 45,493 employers, 9,89,350 employees and 42,34 206 beneficiaries.Employees are contributing 1.75 percent of their monthly salary and employers contribute 4.75 percent on behalf of each employee. According to the changes in the wage ceiling limit, higher paid employees are coming under the purview of ESI Scheme. So it leads to a huge amount of inflow to the ESI Corporation for providing social security to the employees enrolled in the ESI Scheme. Since there is no research studies about the income and expenditure of ESI Scheme in Kerala,it is imperative to study the trend and growth of the scheme and how it is benefited to the employees of organized sector in Kerala.

Objectives of the study
1. To analyze the coverage of ESI scheme in Kerala during the period of study
2. To assess the trend and growth of income and expenditure of ESI scheme in Kerala

III. RESEARCH METHODOLOGY

The data used for the study is secondary in nature. The required data were collected from the annual reports of ESIC and other relevant data are collected from journals, articles and websites. The study covers a period of ten years from 2007-08 to 2016-17. The collected data has been analyzed by using descriptive statistics and compound annual growth rate. Regression analysis and semi-log growth model are used to find out the trend and growth of income and expenditure of ESI scheme in Kerala.

Coverage of ESI scheme in Kerala

Employment insurance scheme is a contributory social security measure for the employees and their dependents in the organization sector. The Contributors are employers, employees and insured persons. Table 1 exhibits the coverage of ESIC Kerala during the study period of 2007-08 to 2016-17. Number of employers shows the highest compound annual growth of 11.88 percent during the study period and it ranges from 15,705 to 43,132 with an average of 28,675.Number of employees and insured persons also reports the growth rate of 7.12 and 6.72 percent respectively. Number of employers is less consistent with highest coefficient of variation of 31.70 percent.

Table 1 Coverage of ESI Scheme in Kerala from 2007-08 to 2016-17

Year	Employers	Employees	Insured Persons
2007-08	15705	467694	517542
2008-09	28293	542555	597540
2009-10	17380	581100	622650
2010-11	19087	602458	614841
2011-12	26518	595658	623058
2012-13	31365	666200	725100
2013-14	32418	707240	762710
2014-15	35759	712910	775000
2015-16	37092	705140	772210
2016-17	43132	868900	929160
Avg.	28674.9	644985.5	693981.1
SD	9090.937	112023.4	120415
CV(%)	31.70	17.39	17.35
CAGR(%)	11.88	7.12	6.72

Source: Annual Reports of ESIC

Components of Income and Expenditure of ESI Scheme

The constituents of income of ESI Scheme arecontribution and other income. The main components of total expenditure are medical benefits, cash benefits, other benefits and administrative expenses. Descriptive statistics and compound annual growth are used to analyse the performance of ESI scheme in Kerala during the study period.

Table 2: Descriptive Statistics of Income and Expenditure of ESI Scheme in Kerala (Rs. in Crores)

Particulars	Minimum	Maximum	Average	SD	CV(%)	CAGR(%)
Income	92.33	580.10	324.23	179.51	55.36	20.18
Contribution	88.84	499.19	288.76	152.9	52.95	18.84
Other Income	3.48	80.91	35.46	27.52	77.61	36.96
Expenditure	62.99	295.62	158.42	78.64	49.64	15.8
Medical Benefits	11.71	160.06	70.56	45.74	64.82	17.59
Cash Benefits	18.34	82.08	51.7	24.45	47.29	16.17
Other Benefits	0.11	0.85	0.33	0.26	77.76	22.69
Administrative Expenses	18.06	52.64	35.83	10.75	30	11.29

Surplus	24.16	284.48	165.81	102.73	61.95	27.97

Source: Annual Reports of ESIC

It is understood from the table2 that contribution and other income are increasing with the compound annual growth rates of 18.84 and 36.96 respectively during the study period. Contribution ranges from Rs.88.84 to Rs.499.19crores with an average of Rs.288.76 and it is more consistent than other income with low coefficient of variation of 52.95 percent.Medical benefits have the highest mean value of 70.56 with a compound annual growth rate of 17.59 percent. Administrative Expenses is more consistent than other components with a lowest coefficient of variation of 30 percent. Surplus ranges from Rs.24.16 crores to Rs. 284.48 crores with a compound annual growth rate of 27.97 percent.

IV. TREND ANALYSIS OF COMPONENTS OF INCOME AND EXPENDITURE

Regression is applied toevaluate the trend in the income and expenditure of ESI scheme in Kerala. Components of income and expenditure are taken as dependent variables and years in which it occurred are considered as independent variable for the analysis. The hypothesis for trend analysis is as follows:

H_0: There is no significant trend in the components of income and expenditure of ESI scheme in Kerala.

Table 3: Regression Analysis of Trend of Components of Income

Variables	Model Summary		Anova		Co efficient			
	R	R^2	F	Sig.	Unstandardized Coefficients			
					Particulars	B	t	Sig.
Contribution	0.990	0.980	391.96	0.000	Constant	13.808	0.881	0.404
					year	49.992	19.798	0.000
Other Income	0.973	0.947	143.04	0.000	Constant	-13.195	-2.875	0.021
					year	8.847	11.96	0.001

Table 3 presents contribution and other income have a significant trend during the study period with a R^2 value of 98 percent and 94.7 percent respectively. P-values for F-statistics of all these components are less than 0.05. Hence the null hypothesis is rejected for these variables and it can be concluded that there is a significant trend in the components of income ESI scheme in Kerala during the study period. The trend equation for contribution is, Contribution (y) = 13.808 + 49.992x.Table 4 reveals thatmedical benefits, cash benefits and administrative expenses have a significant trend during the study period with a R^2 value of more than 88 percent. P- values for F-statistics of all these components are less than 0.05. Hence the null hypothesis is rejected for these variables and it can be concluded that there is significant trend in these components of expenditure except other benefits as its p-value of 0.313 is greater than 0.05. The trend equation for medical benefits is, Medical Benefits(y) = -7.690 + 14.228 x.

Table 4: Regression Analysis of Trend of Components of Expenditure

Variables	Model Summary		Anova		Co-efficient			
	R	R^2	F	Sig.	Unstandardized Coefficients			
					Particulars	B	t	Sig.
Medical Benefit	0.942	0.887	62.82	0.000	Constant	-7.690	-0.690	0.509
					year	14.228	7.926	0.000
Cash Benefit	0.979	0.959	185.83	0.000	Constant	8.215	2.282	0.052
					year	7.908	13.63	0.000
Other Benefits	0.356	0.127	1.159	0.313	Constant	0.165	0.947	0.371
					year	0.030	1.077	0.313
Administrative Expenses	0.946	0.895	68.09	0.000	Constant	17.355	6.873	0.000
					year	3.358	8.251	0.000

Semi- Log Growth Model of Income and Expenditure

Semi- log growth model is used to estimate the growth rate of series over the time period. Income, expenditure and surplus of ESI Scheme in Kerala are taken as dependent variables and the time period 2007-08 to 2016-17 is taken as the independent variable. Semi Long Growth Model is used to estimating the growth of the variable over a time. Growth Model:

$$Log\ (y) = C1 + C2(T) + e \ldots \ldots \ldots (1.1)$$

Where, Y= Log form of dependent variable, T= Time period and e= Residual. For accepting the model as final growth model, it should be free from serial correlation, heteroscedasticity and the residuals must be normally distributed and stationary. Augmented Dickey Fuller test is applied to examine the stationarity of the data. Income and expenditure are stationary at first difference of data and surplus is at second difference.Tables 5 to 7 portray the results of semi- log growth models of income, expenditure and surplus of ESI scheme in Kerala.

Table 5: Results of Semi Log Growth Model of Income

Variable		Coefficient	Std. Error	t-Statistic	P-value
Income	C	-186.626	14.732	-12.668	0.000
	T	0.094	0.007	12.84	0.000
R-squared		0.954	F-statistic	164.700	0.000

Table 5 reports the result of semi-log growth model of income of ESI scheme in Kerala. The time coefficient 0.094 indicates that the growth of income over the period is 9.4 percent. Since the p-value of t-statistics is less than 0.05, it can be concluded that there is significant growth during the study period. R-squared value presents that 95.4 percent impact of time period on income and p-value of F-statistics also less than 0.05. So this model is valid for predicting growth of income during the period. The growth model of income is,

$$\text{Log (income)} = -186.626 + .094(T) + e$$

Table 6: Results of Semi Log Growth Model of Expenditure

Variable		Coefficient	Std. Error	t-Statistic	P-value
Expenditure	C	-151.855	10.202	-14.885	0.000
	T	0.077	0.005	15.095	0.000
R-squared		0.966	F-statistic	227.869	0.000

The time coefficient 0.077 in the table 6 presents that the growth of expenditure over the period is 7.7 percent. Since the p-value of t-statistics is less than 0.05, it can be concluded that there is significant growth during the study period. R-squared value presents that 97 percent impact of time period on expenditure and p-value of F-statistics also less than 0.05. So this model is valid for predicting the growth.

Table 7: Results for Semi Log Growth Model of Surplus of ESIC Kerala

Variable		Coefficient	Std. Error	t-Statistic	P-value
Surplus	C	-234.916	27.954	-8.404	0.000
	T	0.118	0.014	8.479	0.000
R-squared		0.90	F-statistic	71.892	0.000

The time coefficient 0.118 in the table 7 revealsthe growth of surplus over the period is 11.8 percent. Since the p-value of t-statistics is less than 0.05, it can be concluded that there is significant growth during the study period. R-squared value represents that 90 percent impact of time period on surplus and p-value of F-statistics also less than 0.05. So this model is valid for predicting the growth of surplus during the study period.

Table 8: Diagnostic Checking of Semi- Log Growth Model of Income and Expenditure

(a)	Serial Correlation Test H_0: There is no serial correlation in the model			
Income	F- Statistics	2.418	P-Value	0.184
	Obs* R- squared	4.425	P-Value(Chi-Square)	0.109
Expenditure	F- Statistics	0.293	P-Value	0.758
	Obs* R- squared	0.943	P-Value(Chi-Square)	0.624
Surplus	F- Statistics	1.415	P-Value	0.343
	Obs* R- squared	3.315	P-Value(Chi-Square)	0.191
(b)	Heteroskedasticity Test H_0: There is no heteroskedasticity in the model			
Income	F- Statistics	4.298	P-Value	0.077
	Obs* R- squared	3.424	P-Value(Chi-Square)	0.064
Expenditure	F- Statistics	3.325	P-Value	0.111
	Obs* R- squared	2.898	P-Value(Chi-Square)	0.089
Surplus	F- Statistics	1.089	P-Value	0.345
	Obs* R- squared	1.252	P-Value(Chi-Square)	0.263
(c)	Normality Test H_0: The residual in the model is normally distributed			
Income	Jarque- Bera test	0.690	P-Value	0.708
Expenditure	Jarque- Bera test	0.793	P-Value	0.673
Surplus	Jarque- Bera test	0.165	P-Value	0.921

Table 8 depicts that the p-values of chi-square for serial correlation and heteroskedasticity tests for income, expenditure and surplus aremore than 0.05.So the null hypotheses are rejected and the models are free from serial correlation and heteroskedasticity. The p-values of Jarque – Bera test forincome, expenditure and surplus are 0.708, 0.673 and 0.921 respectively. All these values are more than five percentand it can be concluded that residuals in the model are normally distributed and the models can be accepted as final growth models for predicting the income, expenditure and surplus of ESI scheme in Kerala.

V. CONCLUSION

ESIC has played a significant role in providing social security to millions of workers in the organized sector. It isonly a social security organization in the country which provides insurance coverage for exigencies related to health, maternity, disablement, death and employment. The corporation thus extends complete social security coverage to the workers and their family members. So the employees can experience a sense of security and belongingness in the society. From the study it is clear that ESI scheme protects the insured persons from catastrophic health expenditure and promotes health seeking behavior of the beneficiaries. All components of income and expenditure of ESIC show a positive growth rate during the study period.It is also pointed out that there is a lag in the utilization of benefits, because less than 50 percent of the overall contribution is only used for the wellbeing of the employees for the last 10 years. So the study is an insight to increase the awareness and satisfaction level of the employees for availing the benefits of the ESI scheme in a productive way.

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