

Investment Pattern of Life Insurance Corporation of India

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Abstract- The present study focused on investment pattern adopted by the Life Insurance Corporation. The study is exploratory in nature and based on secondary data taken from 'Handbook of Statistics on the Indian Economy, RBI website. The study period ranges from year 1990-1991 to 2016-17. Statistical tools namely trend analysis, Annual Average Growth Rate (AAGR) and Compound Annual Growth Rate (CAGR) are used for analyzing the data. Life insurance companies make investment in the assets to hedge their risks. Efficient investment decision helps the insurance companies to safeguard their investments and can reduce the risk by diversifying the investment in different securities. The Life Insurance Corporation of India manages the investments effectively subject to the directions given by the IRDA

Keywords- Individual Investor, Institutional Investor, Investment Pattern, Portfolio, Life Insurance.

I. INTRODUCTION

Making investment in an efficient manner and getting expected return along with minimum risk is a challenging task to individual as well as institutional investors. Analyzing financial markets in a systematic way is essential to individual or institutional investors for making wise investment. Life Insurance Corporation (LIC) protects the life of the policyholders by collecting premium from them. The premium collected from the policy holders are invested in different securities as per the guidelines of IRDA.

A. Objective of the Study

The present study focused on investment pattern adopted by the Life Insurance Corporation during the study period with the following objectives.

1. To analyze investment pattern adopted by the Life Insurance Corporation over the study period.
2. To examine sector wise and investment wise growth of portfolio pattern adopted by LIC.

B. Methodology

The study is exploratory in nature and based on secondary data taken from 'Handbook of Statistics on the Indian Economy, RBI website. The study period ranges from year 1990-1991 to 2016-17. Statistical tools namely trend analysis, Annual Average Growth Rate (AAGR) and Compound Annual Growth Rate (CAGR) are used for analyzing the data.

II. MARSHALLING OF DATA

Table 1 - Sector Wise Investments by the Life Insurance Corporation

Year	Public Sector	Change over the Previous year (%)	Private Sector	Change over the Previous year (%)	Joint Sector	Change over the Previous year (%)	Cooperative Sector	Change over the Previous year (%)	Total Investments	Change over the Previous year (%)
1990-91	19,980 (80.244)	-	3,310 (13.29)	-	165 (0.663)	-	1,444 (5.799)	-	24,899 (100.00)	-
1991-92	24,425 (80.337)	22.25	4,240 (13.95)	28.10	175 (0.576)	6.06	1,563 (5.141)	8.24	30,403 (100.00)	22.11
1992-93	28,983 (79.795)	18.66	5,397 (14.86)	27.29	284 (0.782)	62.29	1,658 (4.565)	6.08	36,322 (100.00)	19.47
1993-94	36,247 (82.077)	25.06	5,894 (13.35)	9.21	305 (0.691)	7.39	1,716 (3.886)	3.50	44,162 (100.00)	21.58
1994-95	44,319 (82.872)	22.27	7,017 (13.12)	19.05	350 (0.654)	14.75	1,793 (3.353)	4.49	53,479 (100.00)	21.10
1995-96	54,003 (83.010)	21.85	8,814 (13.55)	25.61	380 (0.584)	8.57	1,859 (2.858)	3.68	65,056 (100.00)	21.65
1996-97	65,917 (84.576)	22.06	9,589 (12.30)	8.79	490 (0.629)	28.95	1,942 (2.492)	4.46	77,938 (100.00)	19.80
1997-98	79,236 (84.654)	20.21	11,834 (12.64)	23.41	500 (0.539)	2.04	2,030 (2.169)	4.53	93,600 (100.00)	20.10
1998-99	96,411 (84.495)	21.68	13,048 (13.19)	27.16	549 (0.481)	9.80	2,095 (1.836)	3.20	114,103 (100.00)	21.90
1999-00	117,059 (84.196)	21.42	19,268 (13.86)	28.04	576 (0.414)	4.92	2,129 (1.531)	1.62	139,032 (100.00)	21.85
2000-01	141,256 (84.582)	20.67	22,780 (13.64)	18.23	800 (0.479)	38.89	2,168 (1.298)	1.83	167,004 (100.00)	20.12
2001-02	180,574 (87.148)	27.83	23,708 (11.44)	4.07	793 (0.383)	-0.88	2,129 (1.027)	-1.80	207,204 (100.00)	24.07
2002-03	219,597 (87.221)	21.61	29,407 (11.68)	24.04	685 (0.272)	-13.62	2,082 (0.827)	-2.21	251,771 (100.00)	21.51
2003-04	271,779 (83.178)	23.76	51,924 (15.89)	76.57	960 (0.294)	40.15	2,080 (0.637)	-0.10	326,743 (100.00)	29.78
2004-05	322,022 (81.901)	18.49	68,485 (17.42)	31.89	1,270 (0.323)	32.29	1,408 (0.358)	-32.31	393,185 (100.00)	20.33
2005-06	378,807 (77.747)	17.63	105,148 (21.58)	53.53	1,916 (0.393)	50.87	1,357 (0.279)	-3.62	487,228 (100.00)	23.92
2006-07	43,381 (35.038)	-88.55	84,294 (64.20)	-19.83	75 (0.057)	-96.09	3,555 (2.707)	161.97	131,305 (100.00)	-73.05
2007-08	503,388 (79.180)	1060.39	128,468 (20.21)	52.40	74 (0.012)	-1.33	3,818 (0.601)	7.40	635,748 (100.00)	384.18
2008-09	57,205 (23.062)	-88.64	187,141 (75.45)	45.67	72 (0.029)	-2.70	3,629 (1.463)	-4.95	248,047 (100.00)	-60.98
2009-10	678,374 (73.877)	1085.86	236,135 (25.72)	26.18	71 (0.008)	-1.39	3,667 (0.399)	1.05	918,247 (100.00)	270.19

2010-11	799,009 (74.654)	17.78	267,518 (25.00)	13.29	82 (0.008)	15.49	3,667 (0.343)	0.00	1,070,276 (100.00)	16.36
2011-12	899,655 (96.389)	12.60	30,051 (3.22)	-88.77	85 (0.009)	3.66	3,567 (0.382)	-2.73	933,358 (100.00)	-12.79
2012-13	1,018,781 (75.521)	13.24	329,308 (24.41)	995.83	86 (0.006)	1.18	822 (0.061)	-76.96	1,348,997 (100.00)	44.53
2013-14	1,194,261 (79.031)	17.22	316,024 (20.91)	-4.03	94 (0.006)	9.30	754 (0.050)	-8.27	1,511,133 (100.00)	12.02
2014-15	1,369,713 (80.171)	14.69	337,997 (19.78)	6.95	94 (0.006)	0.00	685 (0.040)	-9.15	1,708,489 (100.00)	13.06
2015-16	1,578,842 (81.977)	15.27	345,852 (17.96)	2.32	96 (0.005)	2.13	1,159 (0.060)	69.20	1,925,949 (100.00)	12.73
2016-17	1,797,369 (82.190)	13.84	385,729 (17.66)	11.53	94 (0.004)	-2.08	986 (0.045)	-14.93	2,184,178 (100.00)	13.41
AAGR	88.86%		53.58%		8.17%		4.60%		36.50%	
CAGR	18.89%		20.08%		-2.14%		-1.46%		18.78%	

Note: Figures in Crores and Figures in Parenthesis denotes the percentage.

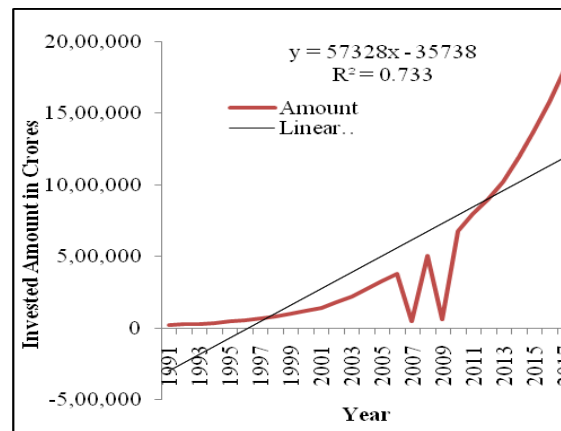
Source: Data retrieved from Published annual reports of RBI.

1. Investments in Public Sector by the Life Insurance Corporation

The Table – 1 shows sectors wise investment by the Life Insurance Corporation of India. Investments made in public sector ranges from rupees 19,980 crore in the year 1991 to rupees 17,97,369 crores in the year 2017 and shows an increasing trend throughout the study period except in the years 2007 (rupees 43381 crore) and 2009 (rupees 57205 crore). The proportion of investment is made by LIC in public sector ranges from 23.062 per cent to 96.389 per cent. The annual growth of investment over the previous year in public sector ranges from -88.55 to 1085.86. The Average Annual Growth Rate (AAGR) of investment in public sector by the life insurance corporation is 88.86 per cent and the Compound Annual Growth Rate (CAGR) of the investments by the life insurance corporation is 18.89 per cent.

The figure - 1 express the actual amount invested and the estimated trend line.

Figure 1 - Investments by Life Insurance Corporation in Public Sector



Source: Drafted based on the table value – 1

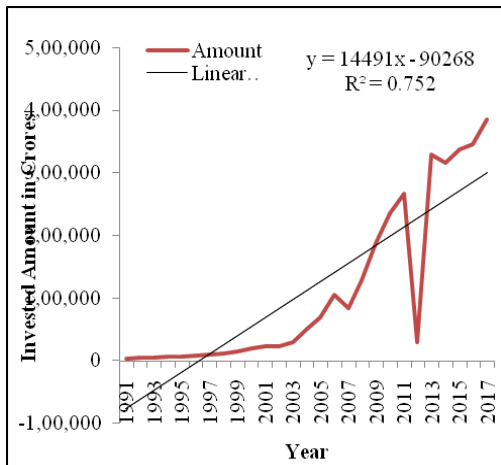
The figure 1 – Investments by the Life Insurance Corporation inferred in the line chart that the actual invested amount and liner trend shows an increasing trend over the study period. In the year 2006-07 and 2008-09, the amount investment in the public sector is very low compared with the previous year, which showed in the actual trend line of the chart. The R^2 value 0.733 indicated that the actual amount invested in the public sector varied with 73.3 per cent over the estimated amount of investment

2. Investments in Private Sector by the Life Insurance Corporation

It is interpreted from the Table – 1 that the invested amount in the private sector ranges from rupees 3,310 crores in the year 1990-1991 to rupees 3,85,729 crores in the year 2016-17. The proportion of investment is made by the LIC in the private sector ranges from 3.22 per cent to 75.45 per cent over the study period. The annual growth rate ranges from -88.77 per cent to 995.83 per cent. The Average Annual Growth Rate (AAGR) of investment in the private sector is 53.58 per cent and the Compound Annual Growth Rate (CAGR) is showed as 20.08 per cent.

The figure - 2 convey the actual amount invested in the private sector and the estimated trend line of investments.

Figure 2 - Investments by the Life Insurance Corporation in Private Sector



Source: Drafted based on the table value – 1

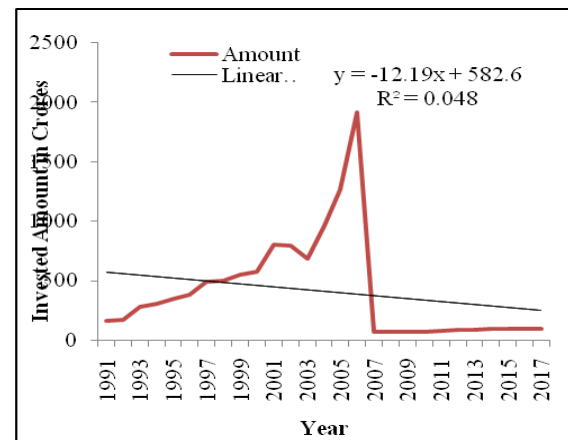
The figure 2 – Investments by the Life Insurance Corporation in the private sector evidenced in the line chart that the actual invested amount and liner tend shows an increasing trend over the study period. In the year 2011-12, the amount investment in the private sector is very low compared with the previous year, which showed in the actual trend line of the chart. In the chart, the R^2 value 0.752 showed that the actual invested amount in the private sector volatile with 75.2 per cent per cent over the estimated amount of investment, which is indicated by the trend line.

3. Investment in Joint Sector by the Life Insurance Corporation

It is evidenced from the Table – 1 that the amount invested by the Life Insurance Corporation in the joint sector ranged from rupees 71 crores in the year 2009-10 to rupees 1916 crores in the year 2005-06. The invested amount in joint sector to total investment proportion is less than one per cent and it is ranged from 0.004 per cent to 0.782 per cent over the sample period of the study. The annual growth rate is increased from the year 1990-91 to 2000-01 and succeeding years it decreased from 0.88 percentage with the previous year investment and it gain decreased with 13.62 per cent from the preceding year of investments. Further, the investment amount in joint sector hugely decreased in the year 2006-07 and succeeding years the amount of investment decreased with slight fluctuation. From the year 2010-11, the Life Insurance Corporation increased its investment in the joint sector except in the year 2016-17. The Average Annual Growth Rate (AAGR) of the amount of investment in joint sector by the life insurance corporation is 8.17 per cent and the Compound Annual Growth Rate (CAGR) showed as -2.14 per cent that means the invested amount not consistently increased over the sample study period.

The figure - 3 expressed the actual investment made by the insurance company and the investment estimation in the future period through trend line.

Figure 3 - Investments by Life Insurance Corporation in Joint Sector



Source: Drafted based on the table value – 1

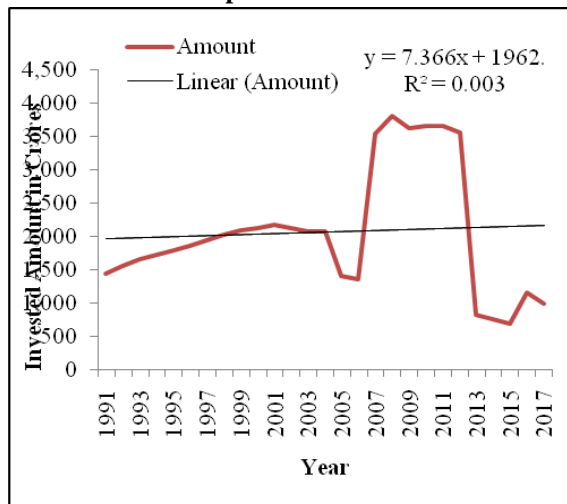
The figure 3 – Investment by the Life Insurance Corporation in the Joint Sector indicated in the line chart that the actual invested amount increased from 1990-91 to 2006-07 but after the year 2006-07, the amount of investment in joint sector is decreased and maintain a same level of amount so the liner tend line shows decreasing trend over the study period. In the year 2007-08, the amount investment in the joint sector is highly very low compared with the previous year, which showed in the actual trend line of the chart. The R^2 value 0.048 showed that the actual amount invested in the joint sector instability with 4.8 per cent per cent over the estimated amount of investment.

4. Investment in Cooperative Sector by the Life Insurance Corporation

It is observed from the Table – 1 that the investment made by the life insurance corporation in the cooperative sector ranged from rupees 685 crores in the year 2014-15 to rupees 3818 crores in the year 2007-08. The proportion of investments ranges from 0.040 per cent to 5.799 per cent and the life insurance company investment pattern in cooperative sector to total investments continuously decreased over the sample study period but, while considering the annual growth invested amount highly increased in the year 2006-07 as 161.97 per cent while compare with preceding year. The life insurance corporation decreased the amount of investment in the cooperative sector as 76.96 per cent in the year 2012-13. The Average Annual Growth Rate of investment in cooperative sector showed as 4.60 per cent and the Compound Annual Growth Rate (CAGR) of the investments in the

cooperative sector is showed as -1.46 per cent which means the invested amount not grow well.

Figure 4 - Investments by Life Insurance Corporation in Cooperative Sector



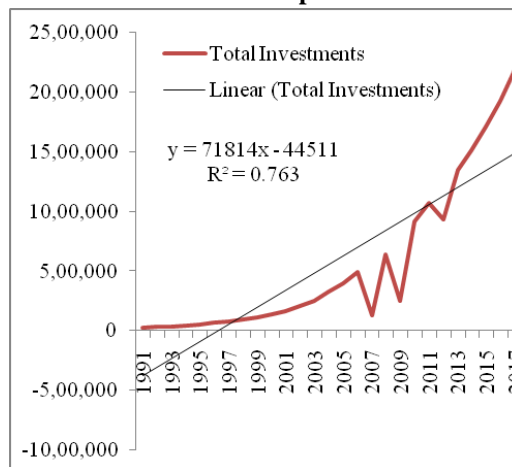
Source: Drafted based on the table value – 1

The figure 4 – Investment by the Life Insurance Corporation in the Cooperative Sector pointed out in the line chart that the actual invested amount slightly increased from 1990-91 to 2000-01 but after the year 2003-04, the amount of investment in cooperative sector is decreased and again the investment increased upto the year 2011-12. The Life Insurance Corporation maintains a high level of investment amount in cooperative (more than the liner trend line) sector from 2006-07 to 2011-12. The estimated liner tend line shows a straight-line trend over the study period. The R² value 0.003 showed that the actual amount invested in the joint sector instability with 0.3 per cent over the estimated amount of investment, which is indicated by the trend line in the chart.

5. Total Investments by the Life Insurance Corporation in the Sectors

It is observed from the table – 1 value that the amount investment in sector wise shows an increasing trend over the sample study period except in the year 2006-07, 2008-09 and 2011-12 but the remaining years the insurance company increase the amount of investment in the sectors which inclusive of public, private, joint and cooperative. The Annual Average Growth Rate is showed as 36.50 percentages, which means the investment in sectors increase with 36.50 per cent with slight fluctuation. While considering the Compound Annual Growth Rate, it shows as 18.78 percentages so the investment in the sectors increased with 18.78 per cent during the sample study period. The figure – 5 expressed the amount of investment in the sectors.

Figure 5 - Sector Wise Total Investments by the Life Insurance Corporation



Source: Drafted based on the table value – 1

The Figure – 5 showed the total investments made by the life insurance corporation in the sector wise. The investment amount increased over the sample study period except in few years. The R² value 0.763 indicated that the amount invested in the sectors instability with 76.3 per cent over the estimated amount of investment, which is indicated by the trend line in the chart.

Table 2 – Instruments Wise Investments by the Life Insurance Corporation

Year	Stock Market Investments	Changes over the Previous Year (%)	Loans Investments	Changes over the Previous Year (%)	Total Investments	Changes over the Previous Year (%)
1990-91	15,871 (68.15)	-	7,417 (31.85)	-	23,288 (100.00)	-
1991-92	19,057 (63.53)	20.07	10,942 (36.47)	47.53	29,999 (100.00)	28.82
1992-93	23,083 (66.58)	21.13	11,585 (33.42)	5.88	34,668 (100.00)	15.56
1993-94	29,536 (69.64)	27.96	12,876 (30.36)	11.14	42,412 (100.00)	22.34
1994-95	37,420 (72.53)	26.69	14,169 (27.47)	10.04	51,589 (100.00)	21.64
1995-96	47,086 (72.25)	25.83	18,086 (27.75)	27.64	65,172 (100.00)	26.33
1996-97	58,851 (77.84)	24.99	16,751 (22.16)	-7.38	75,602 (100.00)	16.00
1997-98	72,537 (79.69)	23.26	18,490 (20.31)	10.38	91,027 (100.00)	20.40
1998-99	90,824 (77.67)	25.21	26,110 (22.33)	41.21	116,934 (100.00)	28.46
1999-00	114,032 (79.77)	25.55	28,926 (20.23)	10.79	142,958 (100.00)	22.26
2000-01	140,106 (81.33)	22.87	32,155 (18.67)	11.16	172,261 (100.00)	20.50
2001-02	178,943 (83.67)	27.72	34,913 (16.33)	8.58	213,856 (100.00)	24.15
2002-03	222,449 (88.98)	24.31	27,540 (11.02)	-21.12	249,989 (100.00)	16.90
2003-04	297,566 (90.35)	33.77	31,800 (9.65)	15.47	329,366 (100.00)	31.75
2004-05	355,635 (90.45)	19.51	37,530 (9.55)	18.02	393,165 (100.00)	19.37
2005-06	450,557 (92.39)	26.69	37,135 (7.61)	-1.05	487,692 (100.00)	24.04
2006-07	480,427 (92.08)	6.63	41,308 (7.92)	11.24	521,735 (100.00)	6.98
2007-08	590,467 (92.88)	22.90	45,281 (7.12)	9.62	635,748 (100.00)	21.85
2008-09	71,571 (95.00)	-87.88	47,181 (39.73)	4.20	118,752 (100.00)	-81.32
2009-10	872,062 (95.91)	1118.46	45,855 (5.00)	-2.81	917,917 (100.00)	672.97
2010-11	1,026,492 (99.64)	17.71	43,784 (4.09)	-4.52	1,070,276 (100.00)	16.60
2011-12	1,162,388 (96.91)	13.24	4,143 (0.36)	-90.54	1,166,531 (100.00)	8.99
2012-13	1,307,333 (96.91)	12.47	41,664 (3.09)	905.65	1,348,997 (100.00)	15.64
2013-14	1,468,886 (97.20)	12.36	42,247 (2.80)	1.40	1,511,133 (100.00)	12.02

2014-15	1,668,047 (97.63)	13.56	40,442 (2.37)	-4.27	1,708,489 (100.00)	13.06
2015-16	1,891,161 (98.19)	13.38	34,788 (1.81)	-13.98	1,923,949 (100.00)	12.73
2016-17	2,152,592 (98.55)	13.82	31,586 (1.45)	-9.20	2,184,178 (100.00)	13.41
AAGR	56.75%		36.85%		38.94%	
CAGR	20.79%		5.73%		19.08%	

Note: Figures are Crores and Figures in Parenthesis denotes the percentage

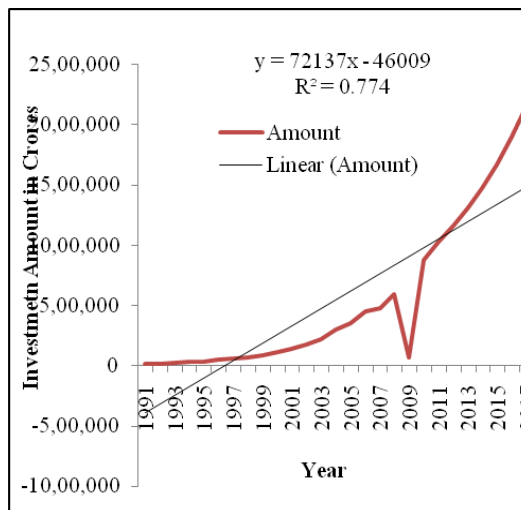
Source: Data retrieved form Published annual reports of RBI.

6. Investment in Stock Market Instruments by the Life Insurance Corporation

It is observed from the table – 2 that the investment made by the life insurance corporation on stock market instrument is ranged from rupees 15871 crores in the year 1990-91 to rupees 2152592 crores in the year 2016-17. The investment amount in the stock market instruments increased year-by-year over the sample study period except the year 2008-09 (rupees 71571 crores) due to market stock market crisis. The stock market investment proportion to total investment also increased and it ranges from 60.27 per cent to 99.64 per cent. The annual growth of investment in the stock market investment increased over the study period except in the year 2008-09. It is 87.88 percentage less than the previous year investment but in the succeeding year the life insurance corporation increased its investment in the stock market instruments without considering any factors association with the market incidents in the previous year as the result of it the insurance company increased 1118.46 percentage of investment while compare with the previous year.

The Annual Average Growth Rate of the amount invested in the stock market instruments shows that 56.75 per cent and the Compound Annual Growth Rate indicated that the investment made in the stock market increased with 20.79 per cent consistency only.

Figure 6 – Investment by the Life Insurance Corporation in Stock Markets



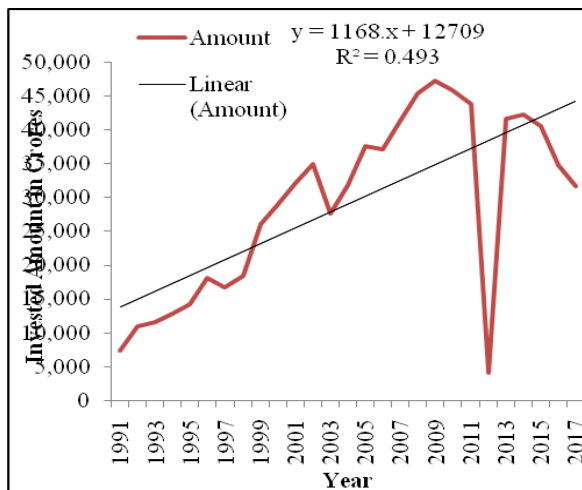
Source: Drafted based on the values form Table – 2

It is inferred from the Figure – 6 that the amount invested by the life insurance corporation in the stock market instruments is gradually increased over the sample period of the study but the investment made by the insurance company is very less in the year 2009 due to stock market crisis. The R² value indicated that the actual amount invested in the stock market instruments varied with 77.4 per cent over the estimated amount of investment, which is indicated by the trend line in the chart.

7. Investment in Loan Instruments by the Life Insurance Corporation

It is interpreted from the table – 2 that the amount invested in the loan instruments were ranged from rupees 4143 crores in the year 2011-12 to rupees 47181 crores in the year 2008-09. The proportion of amount invested in loan instruments to total investment ranged from 39.73 per cent to 0.36 per cent over the sample study period. The proportion to total investment shows decreasing trend over the study period and also the changes over the previous of the investments in loan securities are also fluctuating trend in the sample study period. The highest decreasing trend recoded in the year 2011-12 that is 90.54 percentages less than the preceding year and the insurance company increased the amount of investment in the loan instruments in the year 2012-13 that is 905.65 per cent compare with preceding year to the respective year. The Average Annual Growth Rate of the amount invested in the loan instruments showed 36.85 per cent, the CAGR is only 5.73 percent. The figure – 7 illustrated the trend of amount invested in the loan instruments and its estimated trend with the help of trend line.

Figure 7 – Investment by the Life Insurance Corporation in Loans



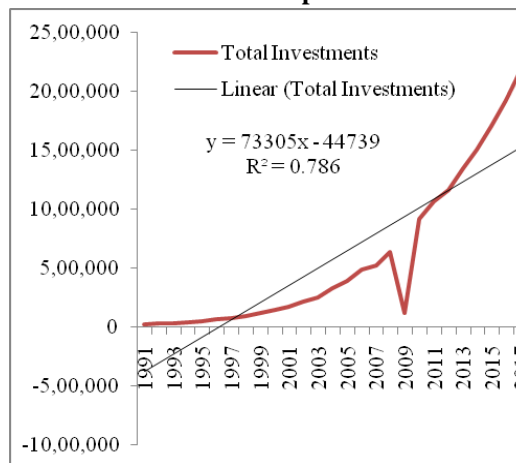
Source: Drafted based on the values form Table – 2

It is observed form the Figure – 7 that the amount of investment in the loan instruments gradually increased upto the year 2010-11 with slight fluctuations but in the year but in the year 2011-12, the investment amount suddenly felled down and it is high fallen during the year of sample study period. The investment amount increased in the succeeding year of the fell down and showing the decrease trend with slight fluctuations in the remaining study period. The R² value indicated that the actual amount invested in the loan instruments varied with 49.3 per cent over the estimated amount of investments in the loan instruments.

8. Total Investments by the Life Insurance Corporation in the Instruments

The total investment made by the life insurance corporation in the instruments were ranged from rupees 23288 crores in the year 1990-91 to rupees 2184178 crores in the year 2016-17. The investment amount in the year 2008-09 is very low and it is 81.32 percentages less than the previous year investment. Even though the stock market faced crisis but the insurance company make investment 60 percentages in the stock market instruments and nearby 40 percentages of amount in the loan instruments. The Annual Average Growth Rate of the amount invested in the instruments is 38.94 per cent but the CAGR of the sample study period showed 19.08 per cent. The figure – 8 demonstrated the trend of amount invested in the instruments and its estimated trend with the help of trend line.

Figure 8 – Instrument wise Total Investment by the Life Insurance Corporation



Source: Drafted based on the values form Table – 2

The Figure – 8 inferred that the total investments made by the life insurance corporation in the instrument wise. The investment amount increased over the sample study period except in the year 2008-09 which also similar to the amount invested in the stock market instruments. The R² value 0.786 indicated that the amount invested in the instruments varied with 78.6 per cent over the estimated amount of investment, which is indicated by the trend line in the chart. The overall chart is similar to the figure – 6 because the majority investment made by the life insurance corporation on stock market instruments.

III. CONCLUSION

Generally, Life insurance companies make investment in the assets to protect the interest of the shareholders and to settle the amount to the claimants in the right time. Efficient investment decision might safeguard the investments and fetch expected return to the investors. Life Insurance Corporation invests money mainly in public sector might think about return also along with safety. The Life Insurance Corporation of India manages the investments effectively as per prescribed ceiling limit given by the IRDA.

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