
Performance of select Mutual Funds in India

Sharmistha Acharyya¹,

Research Scholar,

Department of Economics, The University of Burdwan.

Bhaskar Goswami²

Assistant Professor,

Department of Economics,

The University of Burdwan, India email:

Abstract

The mutual fund industry in India are classified into various sub categories such as equity fund, debt fund, balanced fund, money market fund, gilt fund, funds of fund etc. For the purpose of our analysis, we select some mutual funds from each of the above sub categories and then proceed to identify how far the financial performance of these selected funds is affected by the US recession. The tools used for the analysis of financial performance are the conventional measures of mutual funds performance, like Sharpe's index, Teynor's index and so on.

Keywords: Financial performance; Mutual fund; NAV; Risk-Return.

Introduction

Small investors confront a lot of difficulties in the share market such as limited resources, deficiency of professional advice, lack of information etc. Mutual funds provide an alternative avenue to these investors. It occupies an important place in the capital market by offering the benefits of a diversified portfolio and expert fund management to a large number, particularly small investors. The objective of mutual funds is to stabilize the market and manage large inflows and outflows of the foreign investment. Thus mutual fund acts as a participant in the capital market of any economy.

Followed by the bursting of housing bubble in mid 2007, United States faced a serious recession. This crisis throws its long shadow on the economic fortunes of many countries. The crisis arrived mainly as a surprise to policymakers, multilateral agencies and investors. In a well integrated financial world of today, any shocks in any part of the global financial market get transmitted to the other parts of the market almost instantaneously. Such spill over effects of shocks is at times very detrimental for developing country's financial market. And India too is no exception. The present paper draws its motivation from this fact. The study aims to empirically investigate the impact of recession in the United States on the mutual fund industry in India.

Literature Review

The majority of the research work in the field of mutual fund has been carried out for the industrialised countries in general. There is some rare exception where the framework is for the Indian economy. Notable contributors are Madhu S. Panigrahi (1996), Sathya Swaroop Debasish (2009), Sarika Keswani (2011), Vikas Kumar (2011), Bhaskar Goswami and Sharmistha Acharyya (2012) and Bhaskar Goswami (2012). Madhu S. Panigrahi (1996) analyses the reason behind the attractiveness of mutual funds in last few years and attributed it to its fastest growth, good performance, skilled manpower and its quicker spreadness to the relatively wider area than equity in the recent year. Sathya Swaroop debasish (2009) analyses the performance based on mean return, beta, Sharpe ratio, Treynor ratio, Jensen's alpha of 23 equity mutual funds offered by six private sectors and three public sectors companies. Sarika Keswani (2011) empirically examined the effect of fund size on the performance of open ended balanced mutual funds in India. Vikas Kumar (2011) studied the performance of 20 open ended schemes which are launched by five private mutual fund companies. Bhaskar Goswami (2012) presented the financial performance of selected schemes of mutual funds in India. In contrast to the existing literature, the present paper attempts to study the impact of subprime crisis on the some selected mutual funds in India.

Data and Methodology

80 schemes of 8 mutual fund companies namely Birla Sun Life, DSP BR, ICICI, HDFC, TATA, LIC SBI, UTI are selected for this study. The selection criterion for these mutual funds is based on market share of the respective mutual funds. The annually adjusted net asset values (NAV) are collected from the period 2005 – 2011. The year 2008 is considered to be structural break related to recession in the US. BSE sensx is taken as market index and 10 years Treasury Gold Bond rate (0.095) is considered as risk free rate of return. The source of data is capital line database.

The following research methodology are used in the present study

RETURN

The returns are worked out on the NAV of different schemes. The return of a mutual fund scheme (R_{pt}) at time t is as follows –

$$R_{pt} = \ln(P_t / P_{t-1}) \quad (1)$$

Here NAV_t and NAV_{t-1} are the net asset value for the time period t and $t-1$ respectively.

RISK

Risk is measured by the following statistical tools such as standard deviation, beta etc.

STANDARD DEVIATION (STD.DEV)

Standard deviation is employed to measure fund's volatility from average expected return over a certain period. Larger the value of standard deviation, the greater is the fluctuation in expected return. It is given by –

$$\sigma_p = \sqrt{\frac{\sum (R_p - R_p^*)^2}{n-1}} \quad (2)$$

where R_p = Return of fund portfolio

R_p^* = Average return of fund portfolio

Regression Model

To analyse the effect of recession on these selected mutual funds the following regression model is used –

$$R_{jt} - R_{ft} = \beta_j (R_{mt} - R_{ft}) + \Delta\alpha_j D_t + \Delta\beta_j S_t + U_{jt} \quad (3)$$

$j=1,2..80$

D_t is the binary dummy variable (0 for 2005 – 2007 and 1 for 2009 – 2011)

$S_t = D_t * (R_{mt} - R_{ft})$

R_{jt} , R_{mt} , R_{ft} are the return on mutual fund j , market return and Treasury gold bond rate respectively.

$\Delta\alpha_j$ estimates the difference in mean return between 2 sub-periods.

$\Delta\beta_j$ measures the change in risk between 2 sub-periods.

Here each fund scheme mean return is regressed on market return.

Observations and Results

Table 1. Mean return and Risk Characteristics of selected mutual fund scheme

Name of the schemes	Mean(2005-2007)	Mean(2009-11)	Std. Dev.(2005-07)	Std. Dev.(2009-11)	beta(2005-07)	beta(2009-11)
EQUITY						
Birla Sun Life Equity Fund (D)	0.5567	0.2468	0.1358	0.6001	0.7588	0.5286
Birla Sun Life Index Fund (D)	0.4335	0.2252	0.1036	0.5064	0.6407	1.7268
DSP BR Equity Fund (D)	0.5683	0.2886	0.1203	0.5781	0.7313	0.9970
DSP BR India T.I.G.E.R. Fund (D)	0.6239	0.1904	0.1774	0.5451	0.6897	2.5027
HDFC Equity Fund - (G)	0.5022	0.3602	0.1299	0.6640	0.8402	-2.1668
HDFC Tax Saver Fund (D)	0.4856	0.3428	0.2069	0.6121	0.7747	-4.9730
ICICI Pru Dynamic Plan (D)	0.5113	0.2691	0.0988	0.5034	0.6371	-1.0205
ICICI Pru Tax Plan - (D)	0.4547	0.3742	0.2158	0.6905	0.8724	-4.7988
LIC NOMURA MF Equity Fund - (D)	0.3830	0.1932	0.2185	0.4812	0.6083	3.5324
LIC NOMURA MF Tax Plan - (G)	0.3362	0.1724	0.1330	0.4423	0.5580	2.2542
SBI Magnum Equity Fund (D)	0.5515	0.2912	0.1471	0.5499	0.6947	2.8022
SBI Magnum Tax Gain Scheme (D)	0.6541	0.2529	0.2708	0.5596	0.6336	1.7389
Tata Equity Opportunities Fund - A (D)	0.5518	0.2728	0.1939	0.6097	0.7638	1.1737
Tata Pure Equity Fund - (D)	0.4951	0.2529	0.1023	0.4996	0.6323	1.2128
UTI-Energy Fund (D)	0.2769	0.1676	0.1858	0.5333	0.6707	1.4145
UTI-Equity Fund (D)	0.3677	0.2882	0.1231	0.5260	0.6654	-0.5178
DEBT						
Birla Sun Life MIP II - Savings 5 (Div-M)	0.067	0.0491	0.0207	0.0293	0.4341	-13.5716
Birla Sun Life MIP II - Savings 5 (G)	0.067	0.049	0.0207	0.029	0.4341	-13.4539
DSP BR Income Opportunities Fund (D)	0.0542	0.0651	0.0059	0.0171	-0.0211	-5.6125
DSP BR Bond Fund - Regular (D)	0.0431	0.0349	0.0114	0.0337	0.2452	-16.0313
HDFC Income Fund (D)	0.0484	0.0457	0.0272	0.0279	0.2545	-10.9898

HDFC Monthly Income Plan - LTP (G)	0.1577	0.1357	0.0285	0.1596	-0.1059	75.8441
ICICI Pru Income Plan - (G)	0.0654	0.0367	0.025	0.03	0.5177	-13.7827
ICICI Pru MIP 25 (G)	0.1552	0.1033	0.0072	0.1155	-0.0338	54.9403
LIC NOMURA MF Bond Fund - (G)	0.0605	0.0621	0.0184	0.0284	0.2501	-13.1344
LIC NOMURA MF Monthly Income Plan - (Div-A)	0.1402	0.0614	0.0402	0.0904	0.6624	43.0144
SBI Dynamic Bond Fund (G)	0.027	0.0699	0.0017	0.0489	0.0240	-23.2844
SBI Magnum Income Fund - (D)	0.0502	0.0488	0.0099	0.0567	0.0960	-26.8062
Tata Income Fund - (Q)	0.0702	0.0206	0.0486	0.0718	-0.9079	-34.1496
Tata Income Plus - Fund B (G)	0.0552	0.0471	0.0079	0.0256	-0.1844	-12.0005
UTI-Bond Fund (G)	0.0744	0.038	0.0222	0.0816	-0.3193	-38.8003
UTI-Short Term Income Fund (G)	0.0689	0.0824	0.0129	0.0253	0.2128	0.3985
BALANCED						
Birla Sun Life '95 Fund (D)	0.0824	-0.0211	0.6092	0.1987	-0.2601	-0.2585
Birla Sun Life '95 Fund (G)	0.0824	-0.0200	0.6092	0.1968	-0.2601	-0.2567
DSP BR Balanced Fund - (D)	0.0822	-0.0486	0.5745	0.2132	-0.2421	-0.3469
DSP BR Balanced Fund - (G)	0.0823	-0.0486	0.5746	0.2131	-0.2422	-0.3467
HDFC Balanced Fund (D)	0.0502	0.0060	0.5566	0.1863	-0.2894	-0.2370
HDFC Prudence Fund - (D)	0.0789	-0.0263	0.6480	0.2214	-0.3098	-0.3602
ICICI Pru Balanced Fund - (D)	-0.0130	0.0252	0.5728	0.1906	-0.2445	-0.2400
ICICI Pru Balanced Fund - (G)	-0.0149	0.0252	0.5770	0.1910	-0.2461	-0.2417
LIC NOMURA MF Balanced Fund - (A)	-0.0031	-0.0639	0.6365	0.2185	-0.1926	-0.1883
LIC NOMURA MF Children's Fund	-0.1787	-0.0661	0.9297	0.2414	-0.3359	-0.2558
SBI Magnum Balanced Fund (D)	0.0361	-0.0100	0.6335	0.2949	-0.2651	-0.3804
SBI Magnum Children Benefit Plan	0.0019	-0.0050	0.1306	0.0862	-0.0731	-0.1600
Tata Balanced Fund - (D)	0.0743	0.0057	0.6636	0.2059	-0.2807	-0.3112
Tata Young Citizens Fund	0.0205	-0.0089	0.4090	0.1542	-0.2044	-0.2229
UTI-Balanced Fund (D)	0.0251	-0.0304	0.5747	0.2444	-0.2662	-0.3228
UTI-CCP Balanced Fund (G)	0.0111	0.0005	0.2811	0.1186	-0.1386	-0.1337

GILT						
Birla Sun Life Gilt Plus - Liquid (Div-A)	0.0556	0.0558	0.0074	0.0196	0.0969	-0.0238
Birla Sun Life Govt Sec - Long Term (G)	0.0439	0.1128	0.0043	0.0555	0.0052	0.0690
DSP BR G-Sec Fund (D)	0.0546	0.0185	0.0079	0.0432	-0.1027	-0.0457
DSP BR Treasury Bill Fund (D)	0.0553	0.0457	0.0056	0.0242	0.0826	-0.0292
HDFC Gilt Fund Long Term Plan (D)	0.0408	0.0078	0.0199	0.0818	0.1299	-0.0926
HDFC Gilt Fund Short Term Plan (D)	0.0482	0.0441	0.0082	0.0303	0.1347	-0.0377
ICICI Pru Long Term Gilt Fund (G)	0.0706	0.0154	0.0215	0.0704	0.5175	-0.0831
ICICI Pru Short Term Gilt Fund (D)	0.0614	0.0476	0.0137	0.0150	0.3048	-0.0157
LIC NOMURA MF G-Sec Fund - (D)	0.0485	-0.0136	0.0109	0.1101	0.1184	-0.1365
LIC NOMURA MF G-Sec Fund - PF Plan (G)	0.0484	-0.0057	0.0110	0.0972	0.1102	-0.1212
SBI Magnum Gilt Fund - Long Term (D)	0.0476	-0.0074	0.0037	0.1118	0.0357	-0.1341
SBI Magnum Gilt Fund - Short Term (D)	0.0607	0.0346	0.0376	0.0595	0.4789	-0.0745
Tata Gilt Retirement Plan (28-02-13) (G)	0.0499	-0.0045	0.0136	0.0819	0.0587	-0.0964
Tata Gilt Securities Fund - Plan A (D)	0.0440	-0.0045	0.0204	0.0815	0.0568	-0.0960
UTI-Gilt Advantage Fund - LTP (G)	0.0573	0.0035	0.0022	0.1026	-0.0261	-0.1253
UTI-G-Sec Fund - STP (Periodic Div)	0.0560	0.0350	0.0035	0.0388	0.0843	-0.0490
LIQUID						
Birla Sun Life Cash Plus - (Div-D)	0.077508	0.077139	0.010846	0.01903	0.263591	-0.02317
Birla Sun Life Cash Plus - (Div-W)	0.076507	0.07548	0.008872	0.019957	0.2139	-0.02514
DSP BR Liquidity Fund (Div-D)	0.063545	0.073961	0.003805	0.020439	0.018256	-0.02463
DSP BR Liquidity Fund - Inst (Div-D)	0.068075	0.075714	0.006082	0.021501	-0.03594	-0.02652
HDFC Cash Mgmt - Call (G)	0.069301	0.065908	0.005734	0.017281	0.13914	-0.02148
HDFC Liquid Fund (G)	0.075305	0.075302	0.011274	0.021976	0.267546	-0.02679

ICICI Pru Liquid - Inst (Div-D)	0.073481	0.071519	0.007251	0.018589	0.174892	-0.02293
ICICI Pru Liquid - Retail (Div-W)	0.073559	0.068905	0.010854	0.019954	0.262454	-0.02452
SBI Magnum InstaCash - Cash Plan	0.073624	0.075306	0.011461	0.019627	0.25571	-0.02395
SBI Magnum Instacash - Liquid Floater Plan (D)	0.073904	0.076561	0.00835	0.018587	0.201307	-0.02222
Tata Liquid Fund - Plan A (G)	0.077361	0.07729	0.010874	0.020704	0.250368	-0.02528
Tata Liquid Retail Invest Plan - (G)	0.074499	0.071302	0.010817	0.019301	0.252943	-0.02322
UTI-Liquid - Cash Plan (Div-D)	0.07363	0.071411	0.008244	0.017181	0.126787	-0.02046
UTI-Money Market Fund (G)	0.074449	0.07197	0.009836	0.020869	0.222635	-0.02531
LIC NOMURA MF Liquid Fund (Div-D)	0.0771	0.073529	0.012214	0.017767	0.260559	-0.02165
LIC NOMURA MF Liquid Fund - (G)	0.078621	0.073971	0.011007	0.019166	0.223355	-0.02378

Table 1 gives a recapitulation of the mean return and risk characteristics of 80 schemes of 8 mutual fund companies namely Birla Sun life, HDFC, ICICI prudential, DSP BR,LIC, SBI, TATA and UTI for the two sub periods. Here the years 2005-2007 is considered as pre crisis period & 2009-2011 as post crisis period. It is noted from the table that mean returns of money market mutual fund schemes are higher in the pre recession period and declines significantly in the post recession period. 9 out of 80 schemes have experienced a increase in return after the recession period namely DSP BR Income Opportunities Fund (D), SBI Dynamic Bond Fund (G), UTI-Short Term Income Fund (G), ICICI Pru Balanced Fund, Birla Sun Life Govt Sec - Long Term (G), DSP BR Liquidity Fund (Div-D), DSP BR Liquidity Fund - Inst (Div-D), SBI Magnum InstaCash - Cash Plan and SBI Magnum Instacash - Liquid Floater Plan (D). The volatility of fund returns which is measured by standard deviation and increases after recession period. All schemes of balanced mutual funds have faced lower volatility of return in the post recession period.

Table 2. Regression Result

NAME OF THE SCHEMES	MARKET RETURN	D _t	S _t	R ²
EQUITY				
Birla Sun Life Equity Fund (D)	1.300233** (7.138427)	-0.013215 (-0.1935)	-0.162031 (-0.6858)	.95
Birla Sun Life Index Fund (D)	0.961070** (8.159175)	-0.009122 (-0.2066)	-1.99E-05 (-0.0001)	.97
DSP BR Equity Fund (D)	1.335567* (8.796666)	0.034627 (0.608442)	-0.238569 (-1.2115)	.96
DSP BR India T.I.G.E.R. Fund (D)	1.500799* (7.147652)	-0.054532 (-0.69285)	-0.466223 (-1.7120)	.94

HDFC Equity Fund - (G)	1.131368* (5.562030)	0.082491 (1.081903)	0.128986 (0.488931)	.95
HDFC Tax Saver Fund (D)	1.068400** (3.412885)	0.079337 (0.676110)	0.093637 (0.230625)	.87
ICICI Pru Dynamic Plan (D)	1.163736* (7.564030)	0.035554 (0.616514)	-0.208080 (-1.0428)	.95
ICICI Pru Tax Plan - (D)	0.982528**	0.089476	0.326047	.88
LIC NOMURA MF Equity Fund - (D)	0.829825** (3.0374)	-0.034067 (-0.3326)	0.082562 (0.2330)	.86
LIC NOMURA MF Tax Plan - (G)	0.691030** (4.134864)	-0.043935 (-0.7013)	0.145904 (0.6731)	.93
SBI Magnum Equity Fund (D)	1.299068* (7.7454)	0.045136 (0.717946)	-0.256994 (-1.1814)	.95
SBI Magnum Tax Gain Scheme (D)	0.917275* (11.758)	-0.004428 (-0.1514)	0.033156 (0.3276)	.98
Tata Equity Opportunities Fund - A (D)	1.290313* (4.693889)	0.011674 (0.113295)	-0.144568 (-0.4054)	.90
Tata Pure Equity Fund - (D)	1.131277 (9.320136)	0.020373 (0.447787)	-0.182766 (-1.1609)	.97
UTI-Energy Fund (D)	0.519361 (2.043368)	-0.073276 (-0.7691)	0.486762 (1.4766)	.88
UTI-Equity Fund (D)	0.763312** (4.449505)	0.234847 (0.754331)	0.048506 (1.055525)	.94
DEBT				
Birla Sun Life MIP II - Savings 5 (Div-M)	-0.0760*** (-2.4415)	-0.0380** (-3.2579)	0.0219 (0.5430)	.63
Birla Sun Life MIP II - Savings 5 (G)	-0.0760*** (-2.4415)	-0.0380** (-3.2579)	0.0224 (0.5567)	.63
DSP BR Income Opportunities Fund (D)	-0.1146* (-6.2483)	-0.0266** (-3.8717)	0.0923** (3.8771)	.53
DSP BR Bond Fund - Regular (D)	-0.1442* (-7.2556)	-0.0508* (-6.8241)	0.0803** (3.1140)	.82
HDFC Income Fund (D)	-0.1293** (-3.3163)	-0.0429*** (-2.9360)	0.0854 (1.6902)	.34
HDFC Monthly Income Plan - LTP (G)	-0.1755** (-4.3433)	-0.0031 (-0.2080)	0.1270*** (2.4237)	.96
ICICI Pru Income Plan - (D)	-0.0802 (-2.1376)	-0.0502** (-3.5742)	0.0252 (0.5186)	.62
ICICI Pru MIP 25 (G)	0.1690* (13.6207)	-0.0234* (-5.0415)	0.0501** (3.1160)	.99
LIC NOMURA MF Bond Fund - (G)	-0.0954** (-3.4206)	-0.0253*** (-2.4184)	0.0430 (1.1900)	.61
LIC NOMURA MF Monthly	0.1308***	-0.0585**	0.0407	.90

Income Plan - (Div-A)	(2.5974)	(-3.0989)	0.6244	
	-0.1908*	-0.0116**	0.0979*	
SBI Dynamic Bond Fund (G)	(-8.9633)	(-3.6758)	(22.6550)	.98
SBI Magnum Income Fund - (D)	-0.1252* (-7.1274)	-0.0307* (-4.6622)	0.0183 (0.8038)	.94
Tata Income Fund - (Q)	-0.0749 (-1.1974)	-0.0546*** (-2.3272)	-0.0612 (-0.7549)	.76
Tata Income Plus - Fund B (G)	-0.1130* (-12.7540)	-0.0409* (-12.3337)	0.0651* (5.6672)	.94
UTI-Bond Fund (G)	-0.0606 (-2.1304)	-0.0343** (-3.2178)	-0.0941*** (-2.5532)	.94
UTI-Short Term Income Fund (G)	-0.0770** (-3.1220)	-0.0170 (-1.8446)	0.0916*** (2.8615)	.30
BALANCED				
Birla Sun Life '95 Fund (D)	-0.1887 (-0.205919)	-0.009607 (-0.037418)	0.135464 (0.1168)	.008
Birla Sun Life '95 Fund (G)	-0.1889 (-0.206355)	-0.008523 (-0.033238)	0.135733 (0.1172)	.008
DSP BR Balanced Fund - (D)	-0.1148 (-0.127841)	-0.024397 (-0.096979)	0.006706 (0.0059)	.010
DSP BR Balanced Fund - (G)	-0.1144 (-0.127390)	-0.024404 (-0.097002)	0.006315 (0.0056)	.010
HDFC Balanced Fund (D)	0.5000* (2.8910)	0.0686* (4.9559)	0.3323* (7.1593)	0.99
HDFC Prudence Fund - (D)	-0.26 (-0.278231)	0.015510 (0.06)	0.222150 (0.19)	.021
ICICI Pru Balanced Fund - (D)	-0.39 (-0.432551)	0.021001 (0.08)	0.280899 (0.25)	.050
ICICI Pru Balanced Fund - (G)	-0.39 (-0.439521)	0.021107 (0.08)	0.288202 (0.25)	.052
LIC NOMURA MF Balanced Fund - (A)	-0.28 (-0.267029)	-0.084486 (-0.283666)	0.212716 (0.16)	.008
LIC NOMURA MF Children's Fund	-1.13 (-0.779908)	-0.095214 (-0.233748)	0.966319 (0.53)	.061
SBI Magnum Balanced Fund (D)	-0.27 (-0.262963)	-0.026855 (-0.093466)	0.051937 (0.04)	.031
SBI Magnum Children	0.04	-0.0327***	0.09	0.90

Benefit Plan	(1.00)	(-2.2124)	(1.85)	
Tata Balanced Fund - (G)	-0.20 (-0.199625)	0.006213 -0.02	0.046842 (0.04)	.021
Tata Young Citizens Fund	0.3924* (19.51)	-0.0350* (-4.8854)	0.1642* (6.82)	0.99
UTI-Balanced Fund (G)	0.5333* (7.02)	-0.01 (-0.3743)	0.2480** (2.73)	0.98
UTI-CCP Balanced Fund (G)	-0.19 (-0.458158)	-0.011559 (-0.100990)	0.103620 (0.20)	.046
GILT				
Birla Sun Life Gilt Plus - Liquid (Div-A)	-0.1102* (-3.9603)	-0.0329* (-6.0144)	0.0746* (3.93)	0.72
Birla Sun Life Govt Sec - Long Term (G)	-0.1150* (-4.5193)	-0.0426* (-4.4651)	0.0780*** (2.36)	0.97
DSP BR G-Sec Fund (D)	-0.0114** (-3.4937)	-0.0668* (-5.4303)	0.05 (1.08)	0.79
DSP BR Treasury Bill Fund (D)	-0.0111* (-7.8231)	-0.0429* (-8.0616)	0.0674** (3.66)	0.83
HDFC Gilt Fund Long Term Plan (D)	-0.1514*** (-2.6968)	-0.0670** -3.19	0.01 (0.17)	0.77
HDFC Gilt Fund Short Term Plan (D)	-0.1308* (-7.9956)	-0.0426* (-6.9219)	0.0742** (3.4826)	0.84
ICICI Pru Long Term Gilt Fund (G)	-0.07 (-1.4324)	-0.0615** (-3.5822)	-0.06 (-0.9914)	0.84
ICICI Pru Short Term Gilt Fund (D)	-0.0926** (-3.8542)	-0.0439* (-4.8808)	0.0690*** (2.2163)	0.40
LIC NOMURA MF G-Sec Fund - (D)	-0.1300** (-3.8464)	-0.0788* (-6.2243)	-0.07 (-1.7065)	0.95
LIC NOMURA MF G-Sec Fund - PF Plan (G)	-0.1302* (-4.6670)	-0.0743* (-7.1107)	-0.05 (-1.4266)	0.96
SBI Magnum Gilt Fund - Long Term (D)	-0.1330** (-2.7714)	-0.0731* (-4.0660)	-0.07 (-1.0921)	0.91
SBI Magnum Gilt Fund - Short Term (D)	-0.09 (-1.7623)	-0.0441*** (-2.2229)	-0.02 (-0.2640)	0.70
Tata Gilt Retirement Plan (28-02-13) (G)	-0.1263** (-2.8491)	-0.0785** (-4.7249)	-0.0181** (-0.3155)	0.87
Tata Gilt Securities Fund - Plan A (D)	-0.1429** (-2.9372)	-0.0786* (-4.3094)	0.00 (-0.0161)	0.84

UTI-Gilt Advantage Fund - LTP (G)	-0.1060** (-2.9581)	-0.0642* (-4.7816)	-0.08 (-1.7624)	0.94
UTI-G-Sec Fund - STP (Periodic Div)	-0.1092* (-11.5202)	-0.0493* (-13.8939)	0.0357** (2.90)	0.97
LIQUID				
Birla Sun Life Cash Plus - (Div-D)	-0.061391*** (-2.550836)	-0.015554*** (-2.307135)	0.021312 (0.7001)	.58
Birla Sun Life Cash Plus - (Div-W)	-0.065338** (-3.484210)	-0.016956** (-3.227892)	0.020796 (0.8767)	.74
DSP BR Liquidity Fund (Div-D)	-0.113447* (-6.785361)	-0.018597* (-3.970979)	0.071040** (3.3590)	.81
DSP BR Liquidity Fund - Inst (Div-D)	-0.097456* (-6.048452)	-0.016627** (-3.683880)	0.051264*** (2.5152)	.83
HDFC Cash Mgmt - Call (G)	-0.091856* (-5.880489)	-0.026927* (-6.153993)	0.054251*** (2.7457)	.75
HDFC Liquid Fund (G)	-0.069318*** (-2.684418)	-0.017028*** (-2.354085)	0.022940 (0.7023)	.62
ICICI Pru Liquid - Inst (Div-D)	-0.076523* (-4.167888)	-0.021182* (-4.118605)	0.036580 (1.5751)	.71
ICICI Pru Liquid - Retail (Div-W)	-0.075658** (-3.126037)	-0.023641** (-3.487163)	0.033030 (1.0789)	.62
SBI Magnum InstaCash - Cash Plan	-0.075468** (-2.985400)	-0.017306*** (-2.444061)	0.034000 (1.0633)	.57
SBI Magnum Instacash - Liquid Floater Plan (D)	-0.074820** (-3.440397)	-0.016244*** (-2.666622)	0.036696 (1.3340)	.61
Tata Liquid Fund - Plan A (G)	-0.062012*** (-2.535921)	-0.015188*** (-2.217335)	0.018213 (0.5888)	.62
Tata Liquid Retail Invest Plan - (G)	-0.072326** (-2.894632)	-0.021399** (-3.057408)	0.032381 (1.0245)	.56
UTI-Liquid - Cash Plan (Div-D)	-0.076308** (-3.710278)	-0.021572** (-3.744586)	0.041274 (1.5865)	.60
UTI-Money Market Fund (G)	-0.072711** (-3.058084)	-0.020515** (-3.080226)	0.029028 (0.9652)	.63
LIC NOMURA MF Liquid Fund (Div-D)	-0.062886*** (-2.466696)	-0.019315*** (-2.704694)	0.025434 (0.7887)	.52
LIC NOMURA MF Liquid Fund - (G)	-0.057643*** (-2.525380)	-0.018635** (-2.914565)	0.016065 (0.5564)	.64

*1% level of significance, **5% level of significance, *** 10%level of significance

The result of time series regression of the selected money market mutual fund schemes are shown in Table No. 2. Equity oriented funds' excess return is perfectly co-related with the market excess return. This in turn implies co-movement of the select mutual funds' excess return with the market excess return over the entire study period. This justifies the proper selection of the mutual funds schemes as representative of top 8 mutual funds. But schemes' financial performances are insulated from the impact of subprime crisis. All schemes of debt mutual funds are negatively correlated with market return. Return of debt oriented mutual fund schemes are fall significantly between the ranges 1% to 5%. Out of 10 debt oriented mutual fund schemes 7 namely DSP BR Income Opportunities Fund (D), DSP BR Bond Fund - Regular (D), HDFC Monthly Income Plan - LTP (G), ICICI Pru MIP 25 (G), SBI Dynamic Bond Fund (G), Tata Income Plus - Fund B (G) and UTI-Short Term Income Fund (G) have experienced significantly increase in volatility of return after the subprime crisis. Volatility of return decreases by 9% in case of UTI Bond Fund. In case of balanced mutual fund only few have significant result. For example return and risk of HDFC Balanced Fund (D) increases respectively by 6% and 33% in the post recession period. SBI Magnum Children Benefit Plan has faced a fall in return by 3%. Return of TATA Young Citizen Fund decreases by 3% and risk increases by 16%. More or less all the gilt mutual fund's return fall and volatility of return increases except few funds. Liquid mutual funds are significantly and negatively co-related with market return. Return of all the schemes are significantly fall by 1% to 2%. But the result of volatility is insignificant except few funds like DSP BR Liquidity Fund (Div-D), DSP BR Liquidity Fund - Inst (Div-D) and HDFC Cash Mgmt - Call (G). Volatility of return of these three fund rises by 5% to 7 %. Value of R^2 lies between .70 to .99 except some balanced mutual fund schemes. So it can be summarized from the above table that Debt, Gilt and Liquid mutual funds are highly affected by the subprime crises.

Conclusion

The paper is an effort to examine whether mutual fund industry in Indian is affected by recession in United States following the subprime crisis. Risk-return analysis and a regression model are applied to analyze the performance of mutual funds before and after recession. From the observation it can be concluded that the spill over effects did play a role in the sharp decline of the selected mutual funds performance. But in case of regression results spill over effect was not observed for Equity and Balanced mutual fund schemes while Gilt, Debt and Liquid mutual funds are adversely affected by the recession.

References

- Debasish, S S , 2009, "Investigating Performance of Equity-Based Mutual Fund in Indian Scenario", KCA Journal of Business Management, Vol. 2, pp. 1-15.
- Essayyad, M. and Wu, H. K., 1998, 'The Performance of U.S. International Mutual Funds', Quarterly Journal of Business and Economics, Vol. 27, No. 4, pp. 32-46.
- Goswami, B and Acharyya, S , 2012, " Mutual Funds in India: An Overview", Samiksha The Research Journal of United Institute of Management, Vol. 3, No. 2, pp. 52-60.
- Goswami, B , 2012, "Performance of Some Selected Mutual Fund Scheme In India", Asian Academic Research Journal of Social Sciences and Humanities, Vol. 1, Issue. 3, pp. 56-68.
- Kim, M. K. and Wu, C., 1989, "Performance of Mutual Funds in the Pre-versus Post-Mayday Periods", Quarterly Journal of Business and Economics, Vol. 28, No. 2, pp. 61-84.
- Keswani, S , 2011 , "Effect of Fund Size on The Performance of Balanced Mutual funds an Empirical Study in Indian Context", International Journal of Multidisciplinary Research, Vol. 1, Issue. 4, pp. 18-38.
- Kumar, 2011, "Performance Evaluation of open Ended Schemes of Mutual Funds", International Journal of Multidisciplinary Research, Vol. 1, Issue. 8, pp .428-446.
- Panigrahi, S , 1996 "Mutual Funds: Growth, Performance and Prospect", Economic and Political Weekly, Vol. 31, No. 12, pp. 765-776.