

Impact of Greek Financial Crisis on the Value of Euro with the Other Major World Currencies

Dr. S. Gautami, M.B.A., Ph.D.

Associate Professor, Department of Management Studies, Sri Venkateswara College of Engineering, Tirupati, INDIA

Corresponding Author: gautamivamsi@gmail.com

ABSTRACT

During the Greek Financial Crisis period (December 2009), Greece, one of the members of the EUROZONE, faced an unprecedented financial crisis which triggered gradual erosion in the value of EURO with respect to major world currencies during this period. During May 2010, the European Union agreed for a bailout package for Greece which was intended to prevent a further decline in the value of Euro.

This study mainly focuses on the trend in the Exchange rate of Euro against the world's major currencies during the period of Greek financial crisis and the predictability of Future spot exchange rates using the currency Futures rates. It has been noted that on an average the variation between Future spot rate and Currency futures rates has been highest in respect of INR/EURO and the lowest in respect of GBP/EURO. This indicates that the predictability of GBP/EURO futures rate as an indicator of future spot price has been the highest.

Further, it has been found that the depreciation in the EURO exchange rate during the Greek financial crisis has been the highest against INR and lowest against GBP. This has been further confirmed by the fact that the Regression Coefficient of GBP/EURO has been the lowest while that of INR/EURO has been the highest.

Keywords-- EUROZONE, Bailout Package, Future Spot Exchange Rates, Currency Futures Rates

crisis from spreading. Based on this, it can be look over an impact of Greek Financial Crisis on the value of Euro vis-à-vis the other major international currencies.

II. REVIEW OF LITERATURE

Charles Wyplosz, (2009) Opined - Bailouts: the next step up? Some European governments are contemplating bailouts of other European governments. This column argues that violating the Eurozone's no-bailout clause this soon would be a mistake. Much as it was necessary to let Lehman Brothers go down before bailing out the remaining banks, it may be necessary to let a profligate government default and ask for IMF assistance.

Barry Eichengreen & Berkeley (2007) this Vox column is more relevant than ever arguing that adopting the euro is effectively irreversible. Leaving would require lengthy preparations, which, given the anticipated devaluation, would trigger the mother of all financial crises. National households and firms would shift deposits to other Eurozone banks producing a system-wide bank run. Investors, trying to escape, would create a bond-market crisis. Here is what the train wreck would look like.

III. OBJECTIVES

- (1) To study the trends in the exchange rate of EURO with respect to some of the world's major currencies during the Greek financial Crisis (Dec. 2009 to May 2010)
- (2) To analyze the predictability of currency futures rates in determining the spot rates of the Euro currency.
- (3) To determine the rate of decline in the value of EURO vis-à-vis other major world currencies during the Greek financial crisis.

IV. RESEARCH METHODOLOGY

The data used for this study is secondary data collected from various Web sites and News papers in respect of currency spot prices and currency futures prices during the period of Greek financial crisis.

The above data has been analyzed to determine the currency futures price premium or discount during

I. INTRODUCTION

During the Greek Financial Crisis period, there was crisis sparked by Greece's financial woes, where the main credit rating agencies downgrade Greece's debt. Greek Parliament adopts a 2010 budget to reduce public deficit from 12.7% of GDP to 9.1%. Greek Austerity Programmed unveiled. Portugal & Spain show signs of financial weakness. EU approves Greece's Austerity plan placing the country under surveillance. Portugal's long-term debt rating downgraded. The Irish economy resisters, negative growth of 7.1% during 2009-10. Euro zone maps out a plan to lend 30 billion EURO at 5% rate. EU sharply increases Athens's Public deficit estimate to 13.6% and Greek's sovereign debt rating is downgraded to junk status (A2 to A3). Euro zone finance managers approve a 110-billion euro loan package for Greece. Greece is paralyzed by a general strike on 3 rd since feb. 2010. And Euro zone leaders meet at a summit to stem the Greek crisis and stop the

the Greek financial crisis. Further, the regression analysis has been used to determine the Beta values indicating the rate of decline in the value of EURO vis-

à-vis other major currencies during the Greek financial crisis.

V. ANALYSIS AND INTERPRETATION

Table 1: Forward rate premiums for the period October 2009 to May 2010 in respect of Euro versus USD, INR, GBP, JPY

Date	3 month Forward Rate				Currency Spot rates			
	\$/€	Rs/€	£/€	¥/€	\$/€	Rs/€	£/€	¥/€
6/10/2009	1.47	69.74	0.92	130.84	1.472	68.89	0.93	130.79
20/10/2009	1.49	69.51	0.91	134.92	1.495	69.02	0.91	135.34
26/10/2009	1.5	70.66	0.92	137.69	1.497	69.76	0.92	137.72
2/11/2009	1.47	69.75	0.9	132.38	1.477	69.4	0.9	133.16
17/11/2009	1.49	69.42	0.89	132.38	1.488	68.85	0.89	132.91
27/11/2009	1.49	69.9	0.91	128.52	1.492	69.66	0.91	129
11/12/2009	1.47	69.12	0.9	130.93	1.476	68.34	0.9	130.72
29/12/2009	1.44	67.73	0.9	132	1.441	66.9	0.9	131.63
13/1/2010	1.45	66.8	0.89	132.46	1.456	66.11	0.9	132.41
29/1/2010	1.4	65.37	0.86	126.08	1.397	64.35	0.87	125.61
16/2/2010	1.36	63.54	0.87	122.24	1.365	63.12	0.87	123.2
10/3/2010	1.38	63.09	0.91	124.14	1.361	61.92	0.91	122.63
25/3/2010	1.33	61.32	0.89	122.52	1.336	60.77	0.89	122.71
29/3/2010	1.35	61.2	0.9	124.47	1.347	60.65	0.9	124.79
31/3/2010	1.35	61.07	0.89	125.58	1.348	60.65	0.89	125.78
12/4/2010	1.36	61.02	0.88	126.91	1.359	60.38	0.88	126.58
3/5/2010	1.32	59.42	0.87	124.18	1.324	58.97	0.87	125
10/5/2010	1.3	58.78	0.87	120.87	1.297	57.96	0.86	118.38

Source note: Daily news papers - Business Line

Table 1.1: The 3 month Forward rate Premium (%)

Date	\$/€	Rs/€	£/€	¥/€	Date	\$/€	Rs/€	£/€	¥/€
6/10/2009	-0.16	1.22	-1.09	0.04	29/1/2010	0.24	1.56	-1.16	0.37
20/10/2009	-0.36	0.7	0	-0.31	16/2/2010	-0.36	0.66	0	-0.79
26/10/2009	0.17	1.27	0	-0.02	10/3/2010	1.38	1.85	0	1.22
2/11/2009	-0.46	0.5	0	-0.59	25/3/2010	-0.42	0.9	0	-0.16
17/11/2009	0.17	0.82	0	-0.4	29/3/2010	0.21	0.9	0	-0.26
27/11/2009	-0.12	0.34	0	-0.37	31/3/2010	0.16	0.69	0	-0.16
11/12/2009	-0.39	1.13	0	0.16	12/4/2010	0.11	1.05	0	0.26
29/12/2009	-0.03	1.23	0	0.28	3/5/2010	-0.29	0.76	0	-0.66
13/1/2010	-0.43	1.03	-1.12	0.04	10/5/2010	0.24	1.4	1.15	2.06
Average Premium						-0.0189	1.001	-0.1233	0.0394

Chart I: The 3 month Forward rate Premium(%)

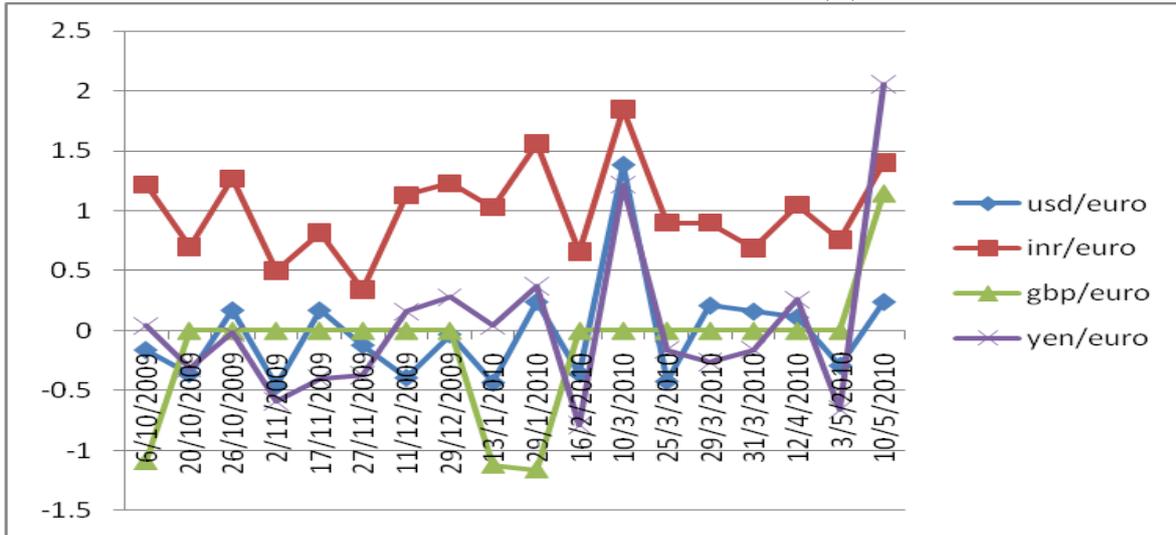


Table 2: The predictability of 3 month forward rates of Euro versus USD, INR, GBP, JPY during the Greek Crisis

Dt	3 month Forward Rates				dt	Spot rate after 3 months			
	\$/€	Rs/€	£/€	¥/€		\$/€	Rs/€	£/€	¥/€
6/10/2009	1.47	69.74	0.92	130.84	6/1/2010	1.43	65.98	0.9	132.52
20/10/2009	1.49	69.51	0.91	134.92	20/1/2010	1.41	65.02	0.87	129.04
26/10/2009	1.5	70.66	0.92	137.69	26/1/2010	1.41	64.75	0.87	126.59
2/11/2009	1.47	69.75	0.9	132.38	2/2/2010	1.39	64.35	0.87	126.27
17/11/2009	1.49	69.42	0.89	132.38	17/2/2010	1.37	63.09	0.87	124.26
27/11/2009	1.49	69.9	0.91	128.52	27/2/2010	1.36	62.77	0.89	121.1
11/12/2009	1.47	69.12	0.9	130.93	11/3/2010	1.37	62.11	0.91	123.46
29/12/2009	1.44	67.73	0.9	132	27/3/2010	1.34	60.61	0.9	123.46
13/1/2010	1.45	66.8	0.89	132.46	13/4/2010	1.36	60.54	0.88	126.58
29/1/2010	1.4	65.37	0.86	126.08	29/4/2010	1.33	58.92	0.87	124.4
16/2/2010	1.36	63.54	0.87	122.24	14/05/2010	1.25	56.46	0.86	115.52

Source note: Daily news papers- Business Line

Chart II: Percentage variation between 3 month forward rates and the actual spot rates after 3 months

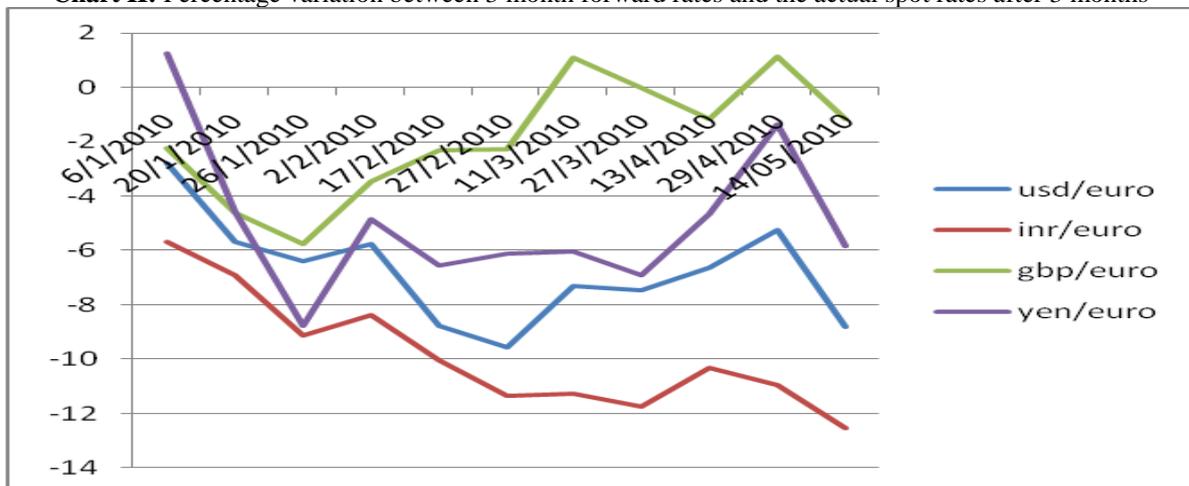
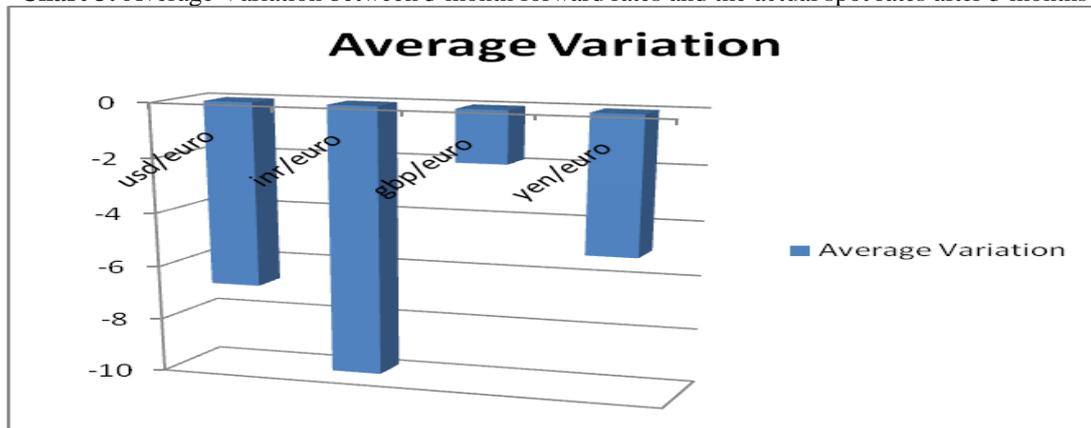


Table 2.1: Percentage variation between 3 month forward rates and the actual spot rates after 3 months

Date	\$/€	Rs/€	£/€	¥/€
6/1/2010	-2.8	-5.7	-2.22	1.27
20/1/2010	-5.67	-6.91	-4.6	-4.56
26/1/2010	-6.38	-9.13	-5.75	-8.77
2/2/2010	-5.76	-8.39	-3.45	-4.84
17/2/2010	-8.76	-10.03	-2.3	-6.53
27/2/2010	-9.56	-11.36	-2.25	-6.13
11/3/2010	-7.3	-11.29	1.1	-6.05
27/3/2010	-7.46	-11.75	0	-6.92
13/4/2010	-6.62	-10.34	-1.14	-4.65
29/4/2010	-5.26	-10.95	1.15	-1.35
14/05/2010	-8.8	-12.54	-1.16	-5.82
Average Variation	-6.76091	-9.85364	-1.87455	-4.9409

Chart 3: Average Variation between 3 month forward rates and the actual spot rates after 3 months**Table 3:** Depreciation in the value of Euro against major currencies during the period 11th dec 2009 to 14th may 2010
currency spot rates

Date	\$/€	Rs/€	£/€	¥/€
11/12/2009	1.4757	68.34	0.9	130.72
29/12/2009	1.4405	66.9	0.9	131.63
13/1/2010	1.4563	66.11	0.9	132.41
29/1/2010	1.3966	64.35	0.87	125.61
16/2/2010	1.3649	63.12	0.87	123.2
10/3/2010	1.361	61.92	0.91	122.63
25/3/2010	1.3356	60.77	0.89	122.71
29/3/2010	1.3471	60.65	0.9	124.79
31/3/2010	1.3479	60.65	0.89	125.78
12/4/2010	1.3585	60.38	0.88	126.58
3/5/2010	1.3238	58.97	0.87	125
10/5/2010	1.2969	57.96	0.86	118.38
14/5/2010	1.2492	56.46	0.86	115.52
% 5 month period	-15	-17	-4.4	-12

Source: www.exchangerates.org.uk/ & from daily news paper of Business Line

Chart 4: Percentage depreciation during the 5 month period



Table 5: Regression Co-efficients of the Euro Exchange Rates against USD, INR, GBP, YEN during the Greek Financial Crisis

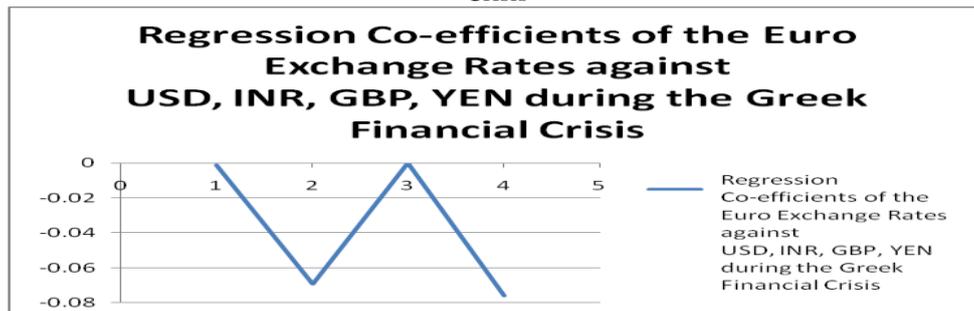
Currency Spot rate

T (time)	Date	\$/€	Rs/€	£/€	¥/€					
		y1	y2	y3	y4	t ²	t*y1	t*y2	t*y3	t*y4
11	11/12/2009	1.4757	68.34	0.9	130.72	121	16.23	751.7	9.9	1437.9
29	29/12/2009	1.4405	66.9	0.9	131.63	841	41.77	1940	26.1	3817.3
44	13/1/2010	1.4563	66.11	0.9	132.41	1936	64.08	2909	39.6	5826
60	29/1/2010	1.3966	64.35	0.87	125.61	3600	83.8	3861	52.2	7536.6
78	16/2/2010	1.3649	63.12	0.87	123.2	6084	106.5	4923	67.86	9609.6
100	10/3/2010	1.361	61.92	0.91	122.63	10000	136.1	6192	91	12263
115	25/3/2010	1.3356	60.77	0.89	122.71	13225	153.6	6989	102.35	14112
119	29/3/2010	1.3471	60.65	0.9	124.79	14161	160.3	7217	107.1	14850
121	31/3/2010	1.3479	60.65	0.89	125.78	14641	163.1	7339	107.69	15219
133	12/4/2010	1.3585	60.38	0.88	126.58	17689	180.7	8031	117.04	16835
154	3/5/2010	1.3238	58.97	0.87	125	23716	203.9	9081	133.98	19250
161	10/5/2010	1.2969	57.96	0.86	118.38	25921	208.8	9332	138.46	19059
165	14/5/2010	1.2492	56.46	0.86	115.52	27225	206.1	9316	141.9	19061
1290		17.754	806.58	11.5	1625					
					Column Total	159160	1725	77881	1135.2	158877

Regression Co-efficient b = $(\sum x*y - \sum x*\sum y/n) / (\sum x^2 - (\sum x)^2/n)$

Regression Co-efficient of \$ to € Exchange rate over the 5 month period	-0.0011826
Regression Co-efficient of Rs to € Exchange rate over the 5 month period	-0.0692271
Regression Co-efficient of £ to € Exchange rate over the 5 month period	-0.0001918
Regression Co-efficient of ¥ to € Exchange rate over the 5 month period	-0.0760599

Chart 5: Regression Co-efficients of the Euro Exchange Rates against USD, INR, GBP, YEN during the Greek Financial Crisis



Inferences from the above Tables and Charts**Table 1:**

The 3 month forward premium on an average is negative in the case of EURO versus USD and EURO versus GBP which are -0.02% and -0.12% respectively indicating that the GBP forward rates predict a steeper fall in the value of EURO.

However, the 3 month forward rates premium in respect of INR and JPY are positive on an average.

Table 2:

Predictability of 3 month forward rates in general it has been observed that the 3 month forward rates of EURO against USD, INR, GBP and JPY were higher than the actual spot rates after 3 months.

Further, the average variation between actual spot rate after 3 month and the 3 month forward rate is highest in respect of EURO versus INR (-9.85%) and lowest in respect of EURO versus GBP (-1.87%)

Table 3:

It is observed that the depreciation in the value of EURO during the Greek financial crisis has been the highest with respect to INR which is 17.38% followed by USD (15.35%) YEN (11.63%) and GBP (4.44%).

VI. CONCLUSION

Based on these 3 tables, it can be inferred that the 3 month forward rates in respect of EURO to INR has the poorest predictability while the 3 month forward rates in respect of EURO to GBP has the highest predictability. Further, the value of EURO with respect to GBP has fall the lowest during the 5 month period.

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