Annexure- I

Annexure- I(1)

Correlation among the independent variables

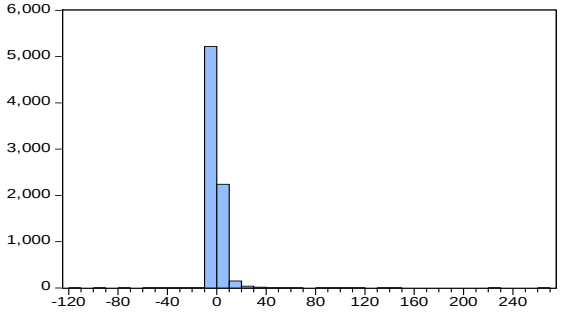
	DER	ICR	FR	LTDER	OR	TR
DER	1					

ICR	-0.0365	1				
	0.0014	-----				
FR	0.06143	-0.0216	1			
	0	0.0577	-----			
LTDER	0.43191	-0.0086	0.017	1		
	0	0.4494	0.1357	-----		
OR	0.0731	-0.0128	-0.0055	0.02178	1	
	0	0.2613	0.6264	0.0559	-----	
TR	0.06965	-0.0222	0.95378	0.01946	0.04037	1
	0	0.0518	0	0.0876	0.0004	-----

Annexure- I(2)(i)

Serial correlation LM test (PBV dependent)

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1096.291	Prob. F(2,7691)	0.0000
Obs*R-squared	1709.727	Prob. Chi-Square(2)	0.0000

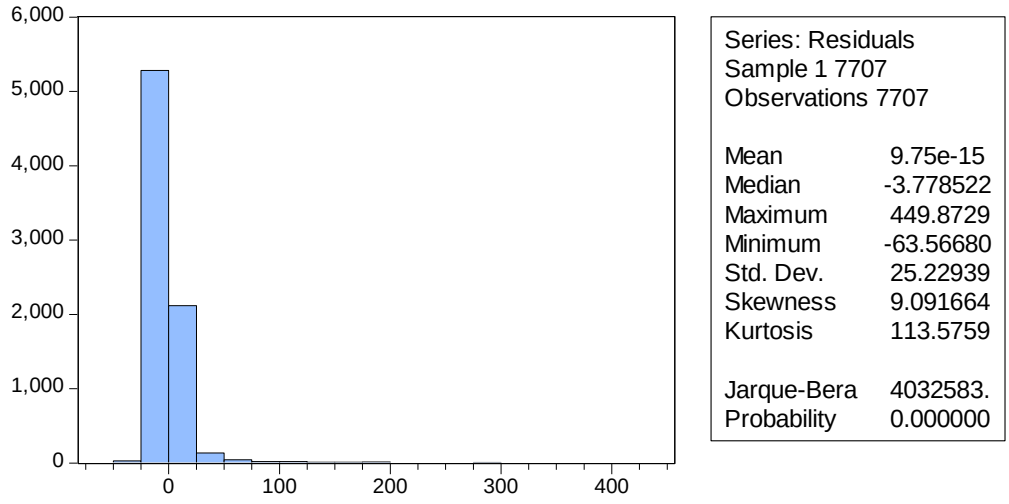


Histogram Normality test of residuals (PBV dependent)

Annexure- I(2)(ii)

Serial correlation LM test (EVEBIDTA dependent)

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	559.6844	Prob. F(2,7691)	0.0000
Obs*R-squared	979.1844	Prob. Chi-Square(2)	0.0000



Histogram Normality test of residuals (EVEBIDTA dependent)

Panel Cointegration Test

Annexure- I(a) Pedroni Residual Cointegration Test (PBV dependent)

Series: PBV OR01 FR DER
Date: 01/31/20 Time: 21:04
Sample: 2001 2017
Included observations: 7707
Cross-sections included: 427 (72 dropped) in non-parametric (PP) test;
422 (77 dropped) parametric (ADF) test
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
Lag selection: fixed at 1

Newey-West bandwidth selection with Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-16.84145	1.0000	-8.193698	1.0000
Panel rho-Statistic	19.62413	1.0000	19.35453	1.0000
Panel PP-Statistic	-9.206072	0.0000	-9.597218	0.0000
Panel ADF-Statistic	-8.768725	0.0000	0.008627	0.5034

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	29.75124	1.0000
Group PP-Statistic	-10.52112	0.0000
Group ADF-Statistic	5.978293	1.0000

Annexure- I(b) Johansen Fisher Residual Cointegration Test (PBV dependent)

Series: PBV OR01 FR DER
Date: 01/31/20 Time: 21:08
Sample: 2001 2017
Included observations: 7707
Trend assumption: Linear deterministic trend
Lags interval (in first differences): 1 1

Unrestricted Cointegration Rank Test (Trace and Maximum Eigenvalue)

Hypothesized No. of CE(s)	Fisher Stat.* (from trace test)	Prob.	Fisher Stat.* (from max-eigen test)	Prob.
None	10016	0.0000	7893.	0.0000
At most 1	4424.	0.0000	3408.	0.0000
At most 2	2050.	0.0000	1610.	0.0000
At most 3	1587.	0.0000	1587.	0.0000

* Probabilities are computed using asymptotic Chi-square distribution.

Annexure- I(c) Pedroni Residual Cointegration Test (PCEPS dependent)

Series: PCEPS OR01 FR DER
Date: 01/31/20 Time: 21:11
Sample: 2001 2017
Included observations: 7707
Cross-sections included: 427 (72 dropped)
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
Lag selection: Automatic SIC with max lag of 0 to 2
Newey-West bandwidth selection with Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-5.192557	1.0000	-8.321597	1.0000
Panel rho-Statistic	15.79209	1.0000	18.49859	1.0000
Panel PP-Statistic	-23.13360	0.0000	-13.79423	0.0000
Panel ADF-Statistic	-17.18773	0.0000	-15.43337	0.0000

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	28.89792	1.0000
Group PP-Statistic	-14.59108	0.0000
Group ADF-Statistic	-12.34608	0.0000

Annexure- I(d) Johansen Fisher Panel Cointegration Test(PCEPS dependent)

Series: PCEPS OR01 FR DER

Date: 01/31/20 Time: 21:12

Sample: 2001 2017

Included observations: 7707

Trend assumption: Linear deterministic trend

Lags interval (in first differences): 1 1

Unrestricted Cointegration Rank Test (Trace and Maximum Eigenvalue)

Hypothesized No. of CE(s)	Fisher Stat.* (from trace test)	Prob.	Fisher Stat.* (from max-eigen test)	Prob.

None	9884.	0.0000	7807.	0.0000
At most 1	4544.	0.0000	3521.	0.0000
At most 2	2072.	0.0000	1642.	0.0000
At most 3	1572.	0.0000	1572.	0.0000

* Probabilities are computed using asymptotic Chi-square distribution.

Annexure -I(e) Pedroni Residual Cointegration Test(MARKETCAPSALES dependent)

Series: MARKETCAPSALES OR01 FR DER
Date: 01/31/20 Time: 21:15
Sample: 2001 2017
Included observations: 7707
Cross-sections included: 427 (72 dropped)
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
Lag selection: Automatic SIC with max lag of 0 to 2
Newey-West bandwidth selection with Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-19.24064	1.0000	-6.273773	1.0000
Panel rho-Statistic	15.21230	1.0000	19.28897	1.0000
Panel PP-Statistic	-21.46252	0.0000	-7.513420	0.0000
Panel ADF-Statistic	-21.60280	0.0000	-9.136698	0.0000

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	29.73567	1.0000
Group PP-Statistic	-6.970451	0.0000
Group ADF-Statistic	-6.835864	0.0000

Annexure-I(f) Johansen Fisher Panel Cointegration Test(MARKETCAPSALES dependent)

Series: MARKETCAPSALES OR01 FR DER
Date: 01/31/20 Time: 21:16
Sample: 2001 2017
Included observations: 7707
Trend assumption: Linear deterministic trend
Lags interval (in first differences): 1 1

Unrestricted Cointegration Rank Test (Trace and Maximum Eigenvalue)

Hypothesized No. of CE(s)	Fisher Stat.* (from trace test)	Prob.	Fisher Stat.* (from max-eigen test)	Prob.
None	10013	0.0000	7977.	0.0000
At most 1	4357.	0.0000	3430.	0.0000
At most 2	1893.	0.0000	1518.	0.0000
At most 3	1471.	0.0000	1471.	0.0000

* Probabilities are computed using asymptotic Chi-square distribution.

Annexure-II

Annexure-II(1)

VECM result of regression coefficient (Dependent PER)

System: UNTITLED
Estimation Method: Least Squares
Date: 02/01/20 Time: 20:27
Sample: 2004 2017
Included observations: 6211
Total system (balanced) observations 24844

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.000402	0.000508	-0.790518	0.4292
C(2)	-0.611964	0.011630	-52.61919	0.0000
C(3)	-0.298862	0.011584	-25.79904	0.0000
C(4)	-0.205577	0.603926	-0.340400	0.7336
C(5)	-0.605504	0.574403	-1.054145	0.2918

C(6)	0.123649	0.187269	0.660275	0.5091
C(7)	-0.046101	0.188751	-0.244242	0.8070
C(8)	-0.326646	1.180093	-0.276797	0.7819
C(9)	-0.123674	0.891156	-0.138780	0.8896
C(10)	4.800436	1.499390	3.201592	0.0014
C(11)	5.98E-05	8.98E-06	6.654240	0.0000
C(12)	0.000315	0.000206	1.532304	0.1255
C(13)	2.04E-05	0.000205	0.099443	0.9208
C(14)	-0.349393	0.010675	-32.72864	0.0000
C(15)	-0.203686	0.010154	-20.06056	0.0000
C(16)	0.008579	0.003310	2.591489	0.0096
C(17)	0.002792	0.003337	0.836921	0.4026
C(18)	0.285155	0.020860	13.66984	0.0000
C(19)	0.107035	0.015753	6.794662	0.0000
C(20)	-0.081569	0.026504	-3.077577	0.0021
C(21)	-8.62E-06	3.14E-05	-0.274443	0.7837
C(22)	-0.000465	0.000719	-0.645930	0.5183
C(23)	-0.000159	0.000716	-0.222003	0.8243
C(24)	0.026031	0.037351	0.696938	0.4858
C(25)	-0.002217	0.035525	-0.062415	0.9502
C(26)	-0.627893	0.011582	-54.21266	0.0000
C(27)	-0.395204	0.011674	-33.85432	0.0000
C(28)	-0.016292	0.072985	-0.223230	0.8234
C(29)	0.006365	0.055115	0.115488	0.9081
C(30)	-0.072343	0.092733	-0.780119	0.4353
C(31)	0.000276	6.54E-06	42.21505	0.0000
C(32)	-8.46E-05	0.000150	-0.564782	0.5722
C(33)	-2.99E-05	0.000149	-0.200396	0.8412
C(34)	0.019869	0.007776	2.555154	0.0106
C(35)	0.012631	0.007396	1.707835	0.0877
C(36)	0.003673	0.002411	1.523054	0.1278
C(37)	0.001854	0.002430	0.762908	0.4455
C(38)	-0.158445	0.015195	-10.42750	0.0000
C(39)	-0.027155	0.011475	-2.366548	0.0180
C(40)	-0.013588	0.019306	-0.703796	0.4816

Determinant residual covariance	7350521.

Equation: D(PER) = C(1)*(PER(-1) - 177.340415049*DER(-1) + 10.1163575976*FR(-1) - 2623.95806671*OR01(-1) + 3599.31420342) + C(2)*D(PER(-1)) + C(3)*D(PER(-2)) + C(4)*D(DER(-1)) + C(5) *D(DER(-2)) + C(6)*D(FR(-1)) + C(7)*D(FR(-2)) + C(8)*D(OR01(-1)) + C(9)*D(OR01(-2)) + C(10)

Observations: 6211

R-squared	0.311481	Mean dependent var	2.490652

Adjusted R-squared	0.310481	S.D. dependent var	142.1378
S.E. of regression	118.0273	Sum squared resid	86382738
Durbin-Watson stat	1.899339		

Equation: D(DER) = C(11)*(PER(-1) - 177.340415049*DER(-1) +
10.1163575976*FR(-1) - 2623.95806671*OR01(-1) + 3599.31420342)
+ C(12)*D(PER(-1)) + C(13)*D(PER(-2)) + C(14)*D(DER(-1)) + C(15)
*D(DER(-2)) + C(16)*D(FR(-1)) + C(17)*D(FR(-2)) + C(18)*D(OR01(-1))
+ C(19)*D(OR01(-2)) + C(20)
Observations: 6211

R-squared	0.192251	Mean dependent var	-0.058905
Adjusted R-squared	0.191079	S.D. dependent var	2.319699
S.E. of regression	2.086339	Sum squared resid	26991.77
Durbin-Watson stat	2.071008		

Equation: D(FR) = C(21)*(PER(-1) - 177.340415049*DER(-1) +
10.1163575976*FR(-1) - 2623.95806671*OR01(-1) + 3599.31420342)
+ C(22)*D(PER(-1)) + C(23)*D(PER(-2)) + C(24)*D(DER(-1)) + C(25)
*D(DER(-2)) + C(26)*D(FR(-1)) + C(27)*D(FR(-2)) + C(28)*D(OR01(-1))
+ C(29)*D(OR01(-2)) + C(30)
Observations: 6211

R-squared	0.329031	Mean dependent var	-0.021279
Adjusted R-squared	0.328057	S.D. dependent var	8.905013
S.E. of regression	7.299628	Sum squared resid	330417.6
Durbin-Watson stat	2.227281		

Equation: D(OR01) = C(31)*(PER(-1) - 177.340415049*DER(-1) +
10.1163575976*FR(-1) - 2623.95806671*OR01(-1) + 3599.31420342)
+ C(32)*D(PER(-1)) + C(33)*D(PER(-2)) + C(34)*D(DER(-1)) + C(35)
*D(DER(-2)) + C(36)*D(FR(-1)) + C(37)*D(FR(-2)) + C(38)*D(OR01(-1))
+ C(39)*D(OR01(-2)) + C(40)
Observations: 6211

R-squared	0.478381	Mean dependent var	-0.014399
Adjusted R-squared	0.477623	S.D. dependent var	2.102683
S.E. of regression	1.519727	Sum squared resid	14321.65

Durbin-Watson stat	2.131144

Annexure-II(2)

VECM result of regression coefficient (Dependent PBV)

PBV and dependent variables have long-run causality as c(1) are negative and significant(less than .05).

System: UNTITLED
Estimation Method: Least Squares
Date: 02/01/20 Time: 20:43
Sample: 2004 2017
Included observations: 6211
Total system (balanced) observations 24844

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.000479	0.000197	-2.432787	0.0150
C(2)	-0.438473	0.012729	-34.44809	0.0000
C(3)	-0.276791	0.013105	-21.12101	0.0000
C(4)	0.035007	0.037804	0.926001	0.3545
C(5)	0.090832	0.035738	2.541651	0.0110
C(6)	-0.001875	0.011597	-0.161658	0.8716
C(7)	-0.006829	0.011696	-0.583859	0.5593
C(8)	-0.145021	0.073493	-1.973253	0.0485
C(9)	-0.083747	0.055422	-1.511092	0.1308
C(10)	0.479326	0.093304	5.137224	0.0000
C(11)	0.000352	5.58E-05	6.311149	0.0000
C(12)	0.023383	0.003612	6.473100	0.0000
C(13)	0.007052	0.003719	1.896109	0.0580
C(14)	-0.352822	0.010729	-32.88509	0.0000
C(15)	-0.203330	0.010142	-20.04758	0.0000
C(16)	0.009200	0.003291	2.795254	0.0052
C(17)	0.002999	0.003319	0.903374	0.3663
C(18)	0.283089	0.020858	13.57251	0.0000
C(19)	0.107206	0.015729	6.815955	0.0000
C(20)	-0.089488	0.026480	-3.379447	0.0007
C(21)	-5.78E-05	0.000196	-0.295204	0.7678
C(22)	-0.003857	0.012673	-0.304314	0.7609
C(23)	-0.003151	0.013048	-0.241525	0.8092
C(24)	0.027281	0.037639	0.724798	0.4686
C(25)	-0.001996	0.035581	-0.056098	0.9553
C(26)	-0.628528	0.011547	-54.43353	0.0000
C(27)	-0.395554	0.011645	-33.96836	0.0000
C(28)	-0.017931	0.073172	-0.245055	0.8064
C(29)	0.005110	0.055179	0.092608	0.9262
C(30)	-0.071908	0.092897	-0.774067	0.4389

C(31)	0.001726	4.07E-05	42.41358	0.0000
C(32)	-0.005521	0.002633	-2.096940	0.0360
C(33)	-0.013100	0.002711	-4.832946	0.0000
C(34)	0.022263	0.007819	2.847177	0.0044
C(35)	0.012934	0.007392	1.749673	0.0802
C(36)	0.003653	0.002399	1.522729	0.1278
C(37)	0.001802	0.002419	0.745044	0.4563
C(38)	-0.155648	0.015201	-10.23903	0.0000
C(39)	-0.026743	0.011463	-2.332864	0.0197
C(40)	-0.008075	0.019299	-0.418389	0.6757

Determinant residual covariance	28211.63

Equation: D(PBV) = C(1)*(PBV(-1) - 26.0273100658*DER(-1) + 1.72228922705*FR(-1) - 422.198505472*OR01(-1) + 577.51442029) + C(2)*D(PBV(-1)) + C(3)*D(PBV(-2)) + C(4)*D(DER(-1)) + C(5)*D(DER(-2)) + C(6)*D(FR(-1)) + C(7)*D(FR(-2)) + C(8)*D(OR01(-1)) + C(9)*D(OR01(-2)) + C(10)

Observations: 6211

R-squared	0.176699	Mean dependent var	0.268449
Adjusted R-squared	0.175504	S.D. dependent var	8.074600
S.E. of regression	7.331878	Sum squared resid	333343.7
Durbin-Watson stat	2.185664		

Equation: D(DER) = C(11)*(PBV(-1) - 26.0273100658*DER(-1) + 1.72228922705*FR(-1) - 422.198505472*OR01(-1) + 577.51442029) + C(12)*D(PBV(-1)) + C(13)*D(PBV(-2)) + C(14)*D(DER(-1)) + C(15)*D(DER(-2)) + C(16)*D(FR(-1)) + C(17)*D(FR(-2)) + C(18)*D(OR01(-1)) + C(19)*D(OR01(-2)) + C(20)

Observations: 6211

R-squared	0.196535	Mean dependent var	-0.058905
Adjusted R-squared	0.195369	S.D. dependent var	2.319699
S.E. of regression	2.080799	Sum squared resid	26848.62
Durbin-Watson stat	2.083379		

Equation: D(FR) = C(21)*(PBV(-1) - 26.0273100658*DER(-1) + 1.72228922705*FR(-1) - 422.198505472*OR01(-1) + 577.51442029) + C(22)*D(PBV(-1)) + C(23)*D(PBV(-2)) + C(24)*D(DER(-

1)) + C(25) *D(DER(-2)) + C(26)*D(FR(-1)) + C(27)*D(FR(-2)) + C(28)*D(OR01(-1)) + C(29)*D(OR01(-2)) + C(30) Observations: 6211			
R-squared	0.328996	Mean dependent var	-0.021279
Adjusted R-squared	0.328022	S.D. dependent var	8.905013
S.E. of regression	7.299820	Sum squared resid	330435.0
Durbin-Watson stat	2.227593		
Equation: D(OR01) = C(31)*(PBV(-1) - 26.0273100658*DER(-1) + 1.72228922705*FR(-1) - 422.198505472*OR01(-1) + 577.51442029) + C(32)*D(PBV(-1)) + C(33)*D(PBV(-2)) + C(34)*D(DER(-1)) + C(35) *D(DER(-2)) + C(36)*D(FR(-1)) + C(37)*D(FR(-2)) + C(38)*D(OR01(-1)) + C(39)*D(OR01(-2)) + C(40) Observations: 6211			
R-squared	0.480571	Mean dependent var	-0.014399
Adjusted R-squared	0.479817	S.D. dependent var	2.102683
S.E. of regression	1.516533	Sum squared resid	14261.50
Durbin-Watson stat	2.126721		

Annexure-II(2)(a) Wald test

Wald test for short-run causality Dependent PBV

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	4.006765	2	0.1349
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(8)		-0.145021	0.073493
C(9)		-0.083747	0.055422
Restrictions are linear in coefficients.			

Annexure-II(2)(b) Wald test

Wald test for short-run causality Dependent PBV

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	6.460054	2	0.0396
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(4)		0.035007	0.037804
C(5)		0.090832	0.035738
Restrictions are linear in coefficients.			

Annexure-II(2)(c) Wald test

Wald test for short-run causality Dependent PBV

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	0.360988	2	0.8349
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(6)		-0.001875	0.011597
C(7)		-0.006829	0.011696
Restrictions are linear in coefficients.			

Annexure-II(3)
VECM result of regression coefficient (Dependent market-cap-sales)

System: UNTITLED
Estimation Method: Least Squares
Date: 02/01/20 Time: 20:55
Sample: 2004 2017
Included observations: 6211
Total system (balanced) observations 24844

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.000625	0.000628	-0.994979	0.3198
C(2)	-0.592529	0.011749	-50.43223	0.0000
C(3)	-0.401015	0.011767	-34.07914	0.0000
C(4)	-0.054444	0.313423	-0.173709	0.8621
C(5)	-0.148616	0.298106	-0.498534	0.6181
C(6)	-0.023776	0.096860	-0.245469	0.8061
C(7)	-0.025157	0.097676	-0.257557	0.7968
C(8)	0.471891	0.611667	0.771484	0.4404
C(9)	0.232312	0.462193	0.502631	0.6152
C(10)	1.045221	0.777458	1.344409	0.1788
C(11)	-0.000147	2.14E-05	-6.879948	0.0000
C(12)	8.53E-05	0.000400	0.212974	0.8313
C(13)	0.000116	0.000401	0.288968	0.7726
C(14)	-0.348992	0.010680	-32.67857	0.0000
C(15)	-0.203275	0.010158	-20.01206	0.0000
C(16)	0.009000	0.003300	2.727073	0.0064
C(17)	0.002942	0.003328	0.884112	0.3766
C(18)	0.288456	0.020842	13.84024	0.0000
C(19)	0.108757	0.015749	6.905764	0.0000
C(20)	-0.080643	0.026491	-3.044151	0.0023
C(21)	2.18E-05	7.48E-05	0.291855	0.7704
C(22)	-5.35E-05	0.001401	-0.038221	0.9695
C(23)	0.000756	0.001403	0.538684	0.5901
C(24)	0.026049	0.037363	0.697184	0.4857
C(25)	-0.002210	0.035537	-0.062184	0.9504
C(26)	-0.628470	0.011546	-54.42949	0.0000
C(27)	-0.395517	0.011644	-33.96807	0.0000
C(28)	-0.017211	0.072916	-0.236038	0.8134
C(29)	0.005769	0.055097	0.104714	0.9166
C(30)	-0.074281	0.092680	-0.801480	0.4229
C(31)	-0.000657	1.56E-05	-42.17600	0.0000
C(32)	0.000398	0.000292	1.364723	0.1724
C(33)	0.000198	0.000292	0.677417	0.4981
C(34)	0.021350	0.007781	2.744026	0.0061
C(35)	0.013546	0.007400	1.830408	0.0672
C(36)	0.003643	0.002405	1.515247	0.1297
C(37)	0.001886	0.002425	0.777862	0.4367
C(38)	-0.159583	0.015184	-10.50967	0.0000
C(39)	-0.027581	0.011474	-2.403844	0.0162
C(40)	-0.014033	0.019300	-0.727115	0.4672
Determinant residual covariance		1995712.		

Equation: D(MARKETCAPSALES) = C(1)*(MARKETCAPSALES(-1) +
78.3722856012*DER(-1) - 4.70067911868*FR(-1) +

1099.760262 *OR01(-1) - 1528.42708379) + C(2)*D(MARKETCAPSALES(-1)) + C(3) *D(MARKETCAPSALES(-2)) + C(4)*D(DER(-1)) + C(5)*D(DER(-2)) + C(6)*D(FR(-1)) + C(7)*D(FR(-2)) + C(8)*D(OR01(-1)) + C(9)*D(OR01(-2)) + C(10) Observations: 6211			
R-squared	0.307412	Mean dependent var	0.643598
Adjusted R-squared	0.306407	S.D. dependent var	73.52638
S.E. of regression	61.23442	Sum squared resid	23251605
Durbin-Watson stat	2.172871		
Equation: D(DER) = C(11)*(MARKETCAPSALES(-1) + 78.3722856012 *DER(-1) - 4.70067911868*FR(-1) + 1099.760262*OR01(-1) - 1528.42708379) + C(12)*D(MARKETCAPSALES(-1)) + C(13) *D(MARKETCAPSALES(-2)) + C(14)*D(DER(-1)) + C(15)*D(DER(-2)) + C(16)*D(FR(-1)) + C(17)*D(FR(-2)) + C(18)*D(OR01(-1)) + C(19) *D(OR01(-2)) + C(20) Observations: 6211			
R-squared	0.192131	Mean dependent var	-0.058905
Adjusted R-squared	0.190959	S.D. dependent var	2.319699
S.E. of regression	2.086494	Sum squared resid	26995.78
Durbin-Watson stat	2.071603		
Equation: D(FR) = C(21)*(MARKETCAPSALES(-1) + 78.3722856012*DER(-1) - 4.70067911868*FR(-1) + 1099.760262*OR01(-1) - 1528.42708379) + C(22)*D(MARKETCAPSALES(-1)) + C(23) *D(MARKETCAPSALES(-2)) + C(24)*D(DER(-1)) + C(25)*D(DER(-2)) + C(26)*D(FR(-1)) + C(27)*D(FR(-2)) + C(28)*D(OR01(-1)) + C(29) *D(OR01(-2)) + C(30) Observations: 6211			
R-squared	0.329023	Mean dependent var	-0.021279
Adjusted R-squared	0.328049	S.D. dependent var	8.905013
S.E. of regression	7.299669	Sum squared resid	330421.4
Durbin-Watson stat	2.227468		

Equation: D(OR01) = C(31)*(MARKETCAPSALES(-1) + 78.3722856012 *DER(-1) - 4.70067911868*FR(-1) + 1099.760262*OR01(-1) - 1528.42708379) + C(32)*D(MARKETCAPSALES(-1)) + C(33) *D(MARKETCAPSALES(-2)) + C(34)*D(DER(-1)) + C(35)*D(DER(-2)) + C(36)*D(FR(-1)) + C(37)*D(FR(-2)) + C(38)*D(OR01(-1)) + C(39) *D(OR01(-2)) + C(40)			
Observations: 6211			
R-squared	0.478109	Mean dependent var	-0.014399
Adjusted R-squared	0.477352	S.D. dependent var	2.102683
S.E. of regression	1.520123	Sum squared resid	14329.10
Durbin-Watson stat	2.131449		

Annexure-II(3)(a)Wald test
(Wald test for short-run causality Dependent market-cap-sales)

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	0.595532	2	0.7425
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(8)		0.471891	0.611667
C(9)		0.232312	0.462193
Restrictions are linear in coefficients.			

Annexure-II(3)(b)Wald test
(Wald test for short-run causality Dependent market-cap-sales)

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	0.085128	2	0.9583

Null Hypothesis Summary:		
Normalized Restriction (= 0)	Value	Std. Err.
C(6)	-0.023776	0.096860
C(7)	-0.025157	0.097676
Restrictions are linear in coefficients.		

Annexure-II(3) (c)Wald test
(Wald test for short-run causality Dependent market-cap-sales)

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	0.248570	2	0.8831
Null Hypothesis Summary:			
Normalized Restriction (= 0)	Value	Std. Err.	
C(4)	-0.054444	0.313423	
C(5)	-0.148616	0.298106	
Restrictions are linear in coefficients.			

Annexure- II(4)

VECM result of regression coefficient (Dependent EVEBIDTA)

System: UNTITLED
Estimation Method: Least Squares
Date: 02/01/20 Time: 21:02
Sample: 2004 2017
Included observations: 6211
Total system (balanced) observations 24844

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.000266	0.000666	0.399673	0.6894
C(2)	-0.560372	0.012482	-44.89538	0.0000
C(3)	-0.306916	0.012889	-23.81237	0.0000
C(4)	-0.097193	0.124631	-0.779847	0.4355
C(5)	0.188375	0.118585	1.588524	0.1122
C(6)	-0.018361	0.038541	-0.476399	0.6338
C(7)	-0.054546	0.038867	-1.403414	0.1605
C(8)	-0.002479	0.243769	-0.010169	0.9919

C(9)	0.061436	0.184047	0.333807	0.7385
C(10)	2.099890	0.310113	6.771367	0.0000
C(11)	0.000370	5.71E-05	6.488833	0.0000
C(12)	-0.001965	0.001069	-1.837901	0.0661
C(13)	-0.001132	0.001104	-1.025627	0.3051
C(14)	-0.350252	0.010674	-32.81261	0.0000
C(15)	-0.204373	0.010156	-20.12253	0.0000
C(16)	0.009095	0.003301	2.755282	0.0059
C(17)	0.002989	0.003329	0.897824	0.3693
C(18)	0.283889	0.020878	13.59745	0.0000
C(19)	0.106598	0.015763	6.762505	0.0000
C(20)	-0.077476	0.026560	-2.916974	0.0035
C(21)	-3.60E-05	0.000199	-0.180636	0.8567
C(22)	0.003109	0.003737	0.832021	0.4054
C(23)	0.011876	0.003858	3.077918	0.0021
C(24)	0.027675	0.037310	0.741771	0.4582
C(25)	-0.000739	0.035500	-0.020830	0.9834
C(26)	-0.628321	0.011538	-54.45753	0.0000
C(27)	-0.395506	0.011635	-33.99208	0.0000
C(28)	-0.014245	0.072975	-0.195202	0.8452
C(29)	0.003937	0.055097	0.071453	0.9430
C(30)	-0.088787	0.092836	-0.956379	0.3389
C(31)	0.001754	4.15E-05	42.26040	0.0000
C(32)	-0.001825	0.000778	-2.345851	0.0190
C(33)	-0.002957	0.000803	-3.680805	0.0002
C(34)	0.018573	0.007767	2.391250	0.0168
C(35)	0.011855	0.007390	1.604161	0.1087
C(36)	0.003782	0.002402	1.574527	0.1154
C(37)	0.001922	0.002422	0.793473	0.4275
C(38)	-0.157397	0.015192	-10.36045	0.0000
C(39)	-0.026043	0.011470	-2.270464	0.0232
C(40)	-0.009089	0.019327	-0.470262	0.6382

Determinant residual covariance	314104.3

Equation: D(EVEBIDTA) = C(1)*(EVEBIDTA(-1) - 26.81895199*DER(-1) +
1.51757784129*FR(-1) - 413.539659605*OR01(-1) + 557.622207979)
+ C(2)*D(EVEBIDTA(-1)) + C(3)*D(EVEBIDTA(-2)) + C(4)*D(DER(-1)) +
C(5)*D(DER(-2)) + C(6)*D(FR(-1)) + C(7)*D(FR(-2)) + C(8)*D(OR01(
-1)) + C(9)*D(OR01(-2)) + C(10)
Observations: 6211

R-squared	0.251394	Mean dependent var	1.190167
Adjusted R-squared	0.250308	S.D. dependent var	28.14124

S.E. of regression	24.36602	Sum squared resid	3681553.
Durbin-Watson stat	2.060152		

Equation: D(DER) = C(11)*(EVEBIDTA(-1) - 26.81895199*DER(-1) +
1.51757784129*FR(-1) - 413.539659605*OR01(-1) + 557.622207979)
+ C(12)*D(EVEBIDTA(-1)) + C(13)*D(EVEBIDTA(-2)) + C(14)*D(DER(
-1)) + C(15)*D(DER(-2)) + C(16)*D(FR(-1)) + C(17)*D(FR(-2)) + C(18)
*D(OR01(-1)) + C(19)*D(OR01(-2)) + C(20)
Observations: 6211

R-squared	0.191834	Mean dependent var	-0.058905
Adjusted R-squared	0.190662	S.D. dependent var	2.319699
S.E. of regression	2.086877	Sum squared resid	27005.69
Durbin-Watson stat	2.071646		

Equation: D(FR) = C(21)*(EVEBIDTA(-1) - 26.81895199*DER(-1) +
1.51757784129*FR(-1) - 413.539659605*OR01(-1) + 557.622207979)
+ C(22)*D(EVEBIDTA(-1)) + C(23)*D(EVEBIDTA(-2)) + C(24)*D(DER(
-1)) + C(25)*D(DER(-2)) + C(26)*D(FR(-1)) + C(27)*D(FR(-2)) + C(28)
*D(OR01(-1)) + C(29)*D(OR01(-2)) + C(30)
Observations: 6211

R-squared	0.330016	Mean dependent var	-0.021279
Adjusted R-squared	0.329044	S.D. dependent var	8.905013
S.E. of regression	7.294267	Sum squared resid	329932.4
Durbin-Watson stat	2.227343		

Equation: D(OR01) = C(31)*(EVEBIDTA(-1) - 26.81895199*DER(-1) +
1.51757784129*FR(-1) - 413.539659605*OR01(-1) + 557.622207979)
+ C(32)*D(EVEBIDTA(-1)) + C(33)*D(EVEBIDTA(-2)) + C(34)*D(DER(
-1)) + C(35)*D(DER(-2)) + C(36)*D(FR(-1)) + C(37)*D(FR(-2)) + C(38)
*D(OR01(-1)) + C(39)*D(OR01(-2)) + C(40)
Observations: 6211

R-squared	0.479201	Mean dependent var	-0.014399
Adjusted R-squared	0.478445	S.D. dependent var	2.102683
S.E. of regression	1.518532	Sum squared resid	14299.13
Durbin-Watson stat	2.130206		

Annexure-II(5)

VECM result of regression coefficient (Dependent PCEPS)

System: UNTITLED
Estimation Method: Least Squares
Date: 02/01/20 Time: 21:05
Sample: 2004 2017
Included observations: 6211
Total system (balanced) observations 24844

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.001081	0.000564	-1.915441	0.0554
C(2)	-0.654936	0.011520	-56.85172	0.0000
C(3)	-0.354906	0.011199	-31.69138	0.0000
C(4)	0.057618	0.458582	0.125643	0.9000
C(5)	-0.201666	0.436179	-0.462346	0.6438
C(6)	0.179886	0.142173	1.265259	0.2058
C(7)	-0.046127	0.143178	-0.322168	0.7473
C(8)	-2.087585	0.894280	-2.334375	0.0196
C(9)	-1.741965	0.676303	-2.575717	0.0100
C(10)	4.324819	1.137927	3.800612	0.0001
C(11)	8.94E-05	1.31E-05	6.800566	0.0000
C(12)	-0.000122	0.000268	-0.454537	0.6494
C(13)	-0.000200	0.000261	-0.767104	0.4430
C(14)	-0.349239	0.010678	-32.70662	0.0000
C(15)	-0.203504	0.010156	-20.03730	0.0000
C(16)	0.008524	0.003310	2.574797	0.0100
C(17)	0.002716	0.003334	0.814529	0.4153
C(18)	0.287128	0.020823	13.78897	0.0000
C(19)	0.108126	0.015747	6.866221	0.0000
C(20)	-0.080319	0.026496	-3.031321	0.0024
C(21)	-5.85E-05	4.59E-05	-1.274184	0.2026
C(22)	0.002332	0.000937	2.487356	0.0129
C(23)	0.002892	0.000911	3.173103	0.0015
C(24)	0.022198	0.037318	0.594826	0.5520
C(25)	-0.005734	0.035495	-0.161533	0.8717
C(26)	-0.630123	0.011570	-54.46286	0.0000
C(27)	-0.397098	0.011651	-34.08131	0.0000
C(28)	-0.071325	0.072775	-0.980080	0.3271
C(29)	-0.018334	0.055036	-0.333131	0.7390
C(30)	-0.080527	0.092602	-0.869601	0.3845
C(31)	0.000403	9.57E-06	42.12082	0.0000
C(32)	-0.000219	0.000195	-1.122185	0.2618
C(33)	-0.000128	0.000190	-0.674494	0.5000

C(34)	0.020640	0.007781	2.652720	0.0080
C(35)	0.012955	0.007401	1.750541	0.0800
C(36)	0.000967	0.002412	0.400849	0.6885
C(37)	0.000342	0.002429	0.140833	0.8880
C(38)	-0.161028	0.015173	-10.61269	0.0000
C(39)	-0.028327	0.011475	-2.468598	0.0136
C(40)	-0.013718	0.019307	-0.710508	0.4774

Determinant residual covariance	4242411.

Equation: D(PCEPS) = C(1)*(PCEPS(-1) - 124.966647505*DER(-1) +
17.6961374557*FR(-1) - 1788.03407145*OR01(-1) + 2432.84967374)
+ C(2)*D(PCEPS(-1)) + C(3)*D(PCEPS(-2)) + C(4)*D(DER(-1)) + C(5)
*D(DER(-2)) + C(6)*D(FR(-1)) + C(7)*D(FR(-2)) + C(8)*D(OR01(-1)) +
C(9)*D(OR01(-2)) + C(10)
Observations: 6211

R-squared	0.345994	Mean dependent var	3.252537
Adjusted R-squared	0.345045	S.D. dependent var	110.7314
S.E. of regression	89.61415	Sum squared resid	49798346
Durbin-Watson stat	1.987831		

Equation: D(DER) = C(11)*(PCEPS(-1) - 124.966647505*DER(-1) +
17.6961374557*FR(-1) - 1788.03407145*OR01(-1) + 2432.84967374)
+ C(12)*D(PCEPS(-1)) + C(13)*D(PCEPS(-2)) + C(14)*D(DER(-1)) +
C(15)*D(DER(-2)) + C(16)*D(FR(-1)) + C(17)*D(FR(-2)) + C(18)
*D(OR01(-1)) + C(19)*D(OR01(-2)) + C(20)
Observations: 6211

R-squared	0.192022	Mean dependent var	-0.058905
Adjusted R-squared	0.190850	S.D. dependent var	2.319699
S.E. of regression	2.086634	Sum squared resid	26999.42
Durbin-Watson stat	2.071735		

Equation: D(FR) = C(21)*(PCEPS(-1) - 124.966647505*DER(-1) +
17.6961374557*FR(-1) - 1788.03407145*OR01(-1) + 2432.84967374)
+ C(22)*D(PCEPS(-1)) + C(23)*D(PCEPS(-2)) + C(24)*D(DER(-1)) +

C(25)*D(DER(-2)) + C(26)*D(FR(-1)) + C(27)*D(FR(-2)) + C(28) *D(OR01(-1)) + C(29)*D(OR01(-2)) + C(30) Observations: 6211			
R-squared	0.330320	Mean dependent var	-0.021279
Adjusted R-squared	0.329348	S.D. dependent var	8.905013
S.E. of regression	7.292613	Sum squared resid	329782.8
Durbin-Watson stat	2.227874		
Equation: D(OR01) = C(31)*(PCEPS(-1) - 124.966647505*DER(-1) + 17.6961374557*FR(-1) - 1788.03407145*OR01(-1) + 2432.84967374) + C(32)*D(PCEPS(-1)) + C(33)*D(PCEPS(-2)) + C(34)*D(DER(-1)) + C(35)*D(DER(-2)) + C(36)*D(FR(-1)) + C(37)*D(FR(-2)) + C(38) *D(OR01(-1)) + C(39)*D(OR01(-2)) + C(40) Observations: 6211			
R-squared	0.477869	Mean dependent var	-0.014399
Adjusted R-squared	0.477111	S.D. dependent var	2.102683
S.E. of regression	1.520473	Sum squared resid	14335.70
Durbin-Watson stat	2.131148		

Annexure-II(5)(a)Wald test

Wald test for short-run causality Dependent PCEPS

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	7.464844	2	0.0239
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(8)		-2.087585	0.894280
C(9)		-1.741965	0.676303
Restrictions are linear in coefficients.			

Annexure-II(5)(b)Wald test

Wald test for short-run causality Dependent PCEPS

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	2.770982	2	0.2502
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(6)		0.179886	0.142173
C(7)		-0.046127	0.143178
Restrictions are linear in coefficients.			

Annexure-II(5) (c)Wald test

Wald test for short-run causality Dependent PCEPS

Wald Test: System: Untitled			
Test Statistic	Value	df	Probability
Chi-square	0.311428	2	0.8558
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(4)		0.057618	0.458582
C(5)		-0.201666	0.436179
Restrictions are linear in coefficients.			

Annexure- III

Annexure-III(1) Correlated Random Effects - Hausman Test(PER dependent)

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	756.821132	14	0.0000

** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
OR01	15.986889	15.210168	10.621611	0.8116
OR01*OR01	-1.306136	-1.340632	0.071685	0.8975
OR01*OR01*OR01	0.030105	0.032085	0.000044	0.7664
OR01*OR01*OR01*OR01	-0.000207	-0.000227	0.000000	0.6930
DER	14.183097	-4.549441	7.388497	0.0004
DER*DER	0.952933	0.312561	0.053582	0.0057
DER*DER*DER	-0.018217	-0.005802	0.000026	0.0144
DER*DER*DER*DER	0.000103	0.000030	0.000000	0.0206
FR	11.286523	5.698090	0.304913	0.0000
FR*FR	-0.145266	-0.050361	0.000068	0.0000
FR*FR*FR	0.000442	0.000128	0.000000	0.0000
A2009	4.546156	6.469539	0.575757	0.0113
PER(-1)	0.101445	0.201903	0.000019	0.0000
PER(-2)	0.158456	0.253851	0.000027	0.0000

Cross-section random effects test equation:
Dependent Variable: PER

Method: Panel Least Squares
Date: 02/01/20 Time: 12:11
Sample (adjusted): 2003 2017
Periods included: 15
Cross-sections included: 498
Total panel (unbalanced) observations: 6709

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9.730023	6.764746	-1.438343	0.1504
OR01	15.98689	5.647150	2.830966	0.0047
OR01*OR01	-1.306136	0.530801	-2.460691	0.0139
OR01*OR01*OR01	0.030105	0.014524	2.072785	0.0382
OR01*OR01*OR01*OR01	-0.000207	0.000116	-1.789833	0.0735
DER	-14.18310	3.363220	-4.217119	0.0000
DER*DER	0.952933	0.352200	2.705660	0.0068
DER*DER*DER	-0.018217	0.008137	-2.238889	0.0252
DER*DER*DER*DER	0.000103	5.18E-05	1.988241	0.0468
FR	11.28652	0.837233	13.48074	0.0000
FR*FR	-0.145266	0.014139	-10.27420	0.0000
FR*FR*FR	0.000442	5.28E-05	8.374273	0.0000
A2009	4.546156	2.937644	1.547552	0.1218
PER(-1)	0.101445	0.012164	8.339808	0.0000
PER(-2)	0.158456	0.012981	12.20643	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.250543	Mean dependent var	29.57170
Adjusted R-squared	0.188743	S.D. dependent var	127.1205
S.E. of regression	114.4972	Akaike info criterion	12.39222
Sum squared resid	81240259	Schwarz criterion	12.91202
Log-likelihood	-41057.72	Hannan-Quinn criter.	12.57172
F-statistic	4.054110	Durbin-Watson stat	1.766024
Prob(F-statistic)	0.000000		

Annexure-III(2)

Correlated Random Effects - Hausman Test (PBV dependent)

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.

	1769.31905		
Cross-section random	4	14	0.0000

** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
OR01	-0.288462	-0.513600	0.030889	0.2002
OR01*OR01	-0.027278	0.011455	0.000209	0.0073
OR01*OR01*OR01	0.001012	0.000009	0.000000	0.0053
OR01*OR01*OR01*OR01	-0.000008	-0.000001	0.000000	0.0083
DER	0.210378	-0.144376	0.021479	0.0155
DER*DER	0.011979	0.017515	0.000156	0.6577
DER*DER*DER	-0.000209	-0.000309	0.000000	0.7134
DER*DER*DER*DER	0.000000	0.000001	0.000000	0.5963
FR	-0.112863	-0.167798	0.000882	0.0644
FR*FR	0.001493	0.002412	0.000000	0.0388
FR*FR*FR	-0.000005	-0.000008	0.000000	0.0276
A2009	1.273321	0.748223	0.001840	0.0000
PBV(-1)	0.198993	0.454434	0.000037	0.0000
PBV(-2)	-0.127490	0.081145	0.000028	0.0000

Cross-section random effects test equation:
Dependent Variable: PBV
Method: Panel Least Squares
Date: 02/01/20 Time: 12:25
Sample (adjusted): 2003 2017
Periods included: 15
Cross-sections included: 498
Total panel (unbalanced) observations: 6709

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.791186	0.367342	7.598335	0.0000
OR01	-0.288462	0.304768	-0.946500	0.3439
OR01*OR01	-0.027278	0.028659	-0.951799	0.3412
OR01*OR01*OR01	0.001012	0.000784	1.290900	0.1968
OR01*OR01*OR01*OR01	-8.11E-06	6.25E-06	-1.297975	0.1943
DER	0.210378	0.181561	1.158719	0.2466
DER*DER	0.011979	0.019035	0.629299	0.5292
DER*DER*DER	-0.000209	0.000440	-0.474700	0.6350
DER*DER*DER*DER	3.96E-07	2.80E-06	0.141505	0.8875
FR	-0.112863	0.045186	-2.497754	0.0125

FR*FR	0.001493	0.000763	1.956348	0.0505
FR*FR*FR	-4.66E-06	2.85E-06	-1.635861	0.1019
A2009	1.273321	0.159337	7.991367	0.0000
PBV(-1)	0.198993	0.012847	15.49002	0.0000
PBV(-2)	-0.127490	0.013325	-9.567934	0.0000

Effects Specification
Cross-section fixed (dummy variables)

R-squared	0.429966	Mean dependent var	3.375706
Adjusted R-squared	0.382961	S.D. dependent var	7.867138
S.E. of regression	6.179781	Akaike info criterion	6.553689
Sum squared resid	236661.5	Schwarz criterion	7.073489
Log likelihood	-21472.35	Hannan-Quinn criter.	6.733187
F-statistic	9.147305	Durbin-Watson stat	2.104730
Prob(F-statistic)	0.000000		

Annexure-III(3)

Correlated Random Effects - Hausman Test (dependent MARKETCAPSALES)

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1214.966403	14	0.0000

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
OR01	-0.723554	-3.784764	2.438659	0.0500
OR01*OR01	0.057514	0.306704	0.016476	0.0522
OR01*OR01*OR01	-0.001395	-0.007497	0.000010	0.0561
OR01*OR01*OR01*OR01	0.000010	0.000055	0.000000	0.0597
DER	-0.986401	-1.579510	1.704220	0.6496
DER*DER	0.077753	0.148395	0.012362	0.5252
DER*DER*DER	-0.001568	-0.003212	0.000006	0.5001
DER*DER*DER*DER	0.000009	0.000020	0.000000	0.4873
FR	-0.178433	-0.164082	0.070353	0.9569
FR*FR	0.002620	0.002261	0.000016	0.9279

FR*FR*FR	-0.000009	-0.000008	0.000000	0.9375
A2009	2.656984	2.269965	0.132195	0.2871
MARKETCAPSALES (-1)	0.122136	0.302740	0.000027	0.0000
MARKETCAPSALES (-2)	-0.028287	0.138185	0.000024	0.0000

Cross-section random effects test equation:
Dependent Variable: MARKETCAPSALES
Method: Panel Least Squares
Date: 02/01/20 Time: 12:30
Sample (adjusted): 2003 2017
Periods included: 15
Cross-sections included: 498
Total panel (unbalanced) observations: 6709

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.350385	3.248917	1.646821	0.0996
OR01	-0.723554	2.710661	-0.266929	0.7895
OR01*OR01	0.057514	0.254904	0.225630	0.8215
OR01*OR01*OR01	-0.001395	0.006976	-0.199966	0.8415
OR01*OR01*OR01*OR01	1.00E-05	5.56E-05	0.180530	0.8567
DER	-0.986401	1.615439	-0.610609	0.5415
DER*DER	0.077753	0.169194	0.459547	0.6459
DER*DER*DER	-0.001568	0.003909	-0.401042	0.6884
DER*DER*DER*DER	9.17E-06	2.49E-05	0.368376	0.7126
FR	-0.178433	0.402118	-0.443734	0.6573
FR*FR	0.002620	0.006792	0.385804	0.6997
FR*FR*FR	-8.74E-06	2.53E-05	-0.344833	0.7302
A2009	2.656984	1.410036	1.884338	0.0596
MARKETCAPSALES (-1)	0.122136	0.012725	9.598021	0.0000
MARKETCAPSALES (-2)	-0.028287	0.012745	-2.219410	0.0265

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.280535	Mean dependent var	5.494875
Adjusted R-squared	0.221209	S.D. dependent var	62.32931
S.E. of regression	55.00509	Akaike info criterion	10.92597
Sum squared resid	18749395	Schwarz criterion	11.44577
Log likelihood	-36139.18	Hannan-Quinn criter.	11.10547
F-statistic	4.728661	Durbin-Watson stat	2.152926
Prob(F-statistic)	0.000000		

Annexure-IV

Annexure- IV(1)
Regression Result under polynomial curve assumption (PER dependent)

Dependent Variable: PER
Method: Panel EGLS (Cross-section weights)
Date: 02/01/20 Time: 15:34
Sample (adjusted): 2003 2017
Periods included: 15
Cross-sections included: 498
Total panel (unbalanced) observations: 6709
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DER	-3.059348	0.242927	-12.59367	0.0000
DER*DER	0.320009	0.032933	9.717038	0.0000
DER*DER*DER	-0.006918	0.000979	-7.068902	0.0000
DER*DER*DER*DER	4.03E-05	8.83E-06	4.561166	0.0000
OR01	4.280680	0.693066	6.176443	0.0000
OR01*OR01	-0.411377	0.064945	-6.334244	0.0000
OR01*OR01*OR01	0.009737	0.001680	5.797445	0.0000
OR01*OR01*OR01*O R01	-6.70E-05	1.29E-05	-5.176105	0.0000
FR	3.238150	0.228102	14.19603	0.0000
FR*FR	-0.074510	0.008222	-9.061984	0.0000
FR*FR*FR	0.000579	8.75E-05	6.618958	0.0000
FR*FR*FR*FR	-1.40E-06	2.53E-07	-5.538930	0.0000
D2D	2.944985	0.559469	5.263893	0.0000
D3E	2.314633	0.858240	2.696954	0.0070
D4F	3.324235	1.160020	2.865671	0.0042
D5G	10.27653	1.560331	6.586123	0.0000
D6H	7.710336	3.750530	2.055799	0.0398
D7I	2.861574	0.859810	3.328148	0.0009
D8J	-3.266994	0.828181	-3.944783	0.0001
D9K	4.229032	0.799648	5.288619	0.0000
D11O	6.883455	1.783864	3.858733	0.0001
D10N	10.33551	2.030706	5.089616	0.0000
A2009	3.700826	0.266311	13.89665	0.0000
PER(-1)	0.404848	0.015227	26.58808	0.0000
PER(-2)	0.231180	0.015498	14.91668	0.0000
C	-5.165990	0.885563	-5.833566	0.0000

Weighted Statistics

R-squared	0.455231	Mean dependent var	132.0654

Adjusted R-squared	0.453193	S.D. dependent var	147.3024
S.E. of regression	95.05129	Sum squared resid	60379214
F-statistic	223.3831	Durbin-Watson stat	1.883941
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.091153	Mean dependent var	29.57170
Sum squared resid	98517866	Durbin-Watson stat	2.070020

Annexure-IV(1)(a)

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	17.40151	(10, 6683)	0.0000
Chi-square	174.0151	10	0.0000

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(13)	2.944985	0.559469
C(14)	2.314633	0.858240
C(15)	3.324235	1.160020
C(16)	10.27653	1.560331
C(17)	7.710336	3.750530
C(18)	2.861574	0.859810
C(19)	-3.266994	0.828181
C(20)	4.229032	0.799648
C(21)	6.883455	1.783864
C(22)	10.33551	2.030706

Restrictions are linear in coefficients.

Annexure- IV(3)

Regression Result under polynomial curve assumption (MARKETCAPSALES dependent)

Dependent Variable: MARKETCAPSALES
Method: Panel EGLS (Cross-section weights)
Date: 02/07/20 Time: 15:34
Sample (adjusted): 2003 2017
Periods included: 15
Cross-sections included: 498
Total panel (unbalanced) observations: 6709
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DER	-0.209605	0.021853	-9.591537	0.0000
DER*DER	0.022302	0.002928	7.615924	0.0000
DER*DER*DER	-0.000504	7.03E-05	-7.170837	0.0000
DER*DER*DER*DER	3.16E-06	4.56E-07	6.932692	0.0000
OR01	-0.403330	0.057459	-7.019400	0.0000
OR01*OR01	0.031676	0.005683	5.574321	0.0000
OR01*OR01*OR01	-0.000795	0.000174	-4.560982	0.0000
OR01*OR01*OR01*OR01	5.97E-06	1.59E-06	3.755102	0.0002
FR	-0.103215	0.010455	-9.871917	0.0000
FR*FR	0.002897	0.000333	8.696191	0.0000
FR*FR*FR	-2.46E-05	3.22E-06	-7.618427	0.0000
FR*FR*FR*FR	6.16E-08	9.02E-09	6.833979	0.0000
D2D	-0.082646	0.253462	-0.326071	0.7444
D3E	0.161963	0.416954	0.388442	0.6977
D4F	-0.034610	0.268745	-0.128785	0.8975
D5G	-0.153347	0.266229	-0.575996	0.5646
D6H	0.231244	0.328566	0.703797	0.4816
D7I	0.222233	0.284311	0.781655	0.4344
D8J	0.275204	0.261879	1.050880	0.2934
D9K	0.305199	0.287223	1.062584	0.2880
D10N	0.165898	0.327559	0.506469	0.6125
D11O	0.341742	0.354655	0.963590	0.3353
A2009	0.345620	0.028288	12.21778	0.0000
MARKETCAPSALES(-1)	0.640125	0.019950	32.08705	0.0000
MARKETCAPSALES(-2)	0.226755	0.020972	10.81232	0.0000
C	1.057883	0.262101	4.036167	0.0001

Weighted Statistics			
R-squared	0.725078	Mean dependent var	52.09711
Adjusted R-squared	0.724050	S.D. dependent var	67.82211
S.E. of regression	33.51103	Sum squared resid	7504937.
F-statistic	705.0291	Durbin-Watson stat	1.942192
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	-0.000005	Mean dependent var	5.494875
Sum squared resid	26060316	Durbin-Watson stat	2.697691

Annexure-IV(3)(a)

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	4.727808	(10, 6683)	0.0000
Chi-square	47.27808	10	0.0000

Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(13)	-0.082646	0.253462
C(14)	0.161963	0.416954
C(15)	-0.034610	0.268745
C(16)	-0.153347	0.266229
C(17)	0.231244	0.328566
C(18)	0.222233	0.284311
C(19)	0.275204	0.261879
C(20)	0.305199	0.287223
C(21)	0.341742	0.354655
C(22)	0.165898	0.327559

Restrictions are linear in coefficients.

Annexure-IV(4)

Regression Result under polynomial curve assumption (PCEPS dependent)

Dependent Variable: PCEPS
Method: Panel EGLS (Cross-section weights)
Date: 02/07/20 Time: 15:32
Sample (adjusted): 2003 2017
Periods included: 15
Cross-sections included: 498
Total panel (unbalanced) observations: 6709
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DER	-1.421133	0.152073	-9.345081	0.0000
DER*DER	0.173158	0.020620	8.397424	0.0000
DER*DER*DER	-0.004027	0.000501	-8.032045	0.0000
DER*DER*DER*DER	2.53E-05	3.31E-06	7.638439	0.0000
OR01	0.023550	0.502936	0.046825	0.9627
OR01*OR01	-0.098083	0.070896	-1.383473	0.1666
OR01*OR01*OR01	0.003067	0.002453	1.250015	0.2113
OR01*OR01*OR01*OR01	-2.44E-05	2.33E-05	-1.045049	0.2960
FR	0.884728	0.113071	7.824519	0.0000
FR*FR	-0.031558	0.005340	-5.910159	0.0000
FR*FR*FR	0.000377	6.87E-05	5.483004	0.0000
FR*FR*FR*FR	-1.14E-06	2.17E-07	-5.266869	0.0000
D2D	2.149882	0.403830	5.323734	0.0000
D3E	1.167302	0.569911	2.048219	0.0406
D4F	2.559837	0.880408	2.907558	0.0037
D5G	7.141076	1.160609	6.152868	0.0000
D6H	5.136578	1.572044	3.267452	0.0011
D7I	1.840946	0.663078	2.776363	0.0055
D8J	-1.394487	0.464962	-2.999138	0.0027
D9K	3.422749	0.621466	5.507538	0.0000
D10N	5.149882	2.429817	2.119453	0.0341
D11O	3.281158	1.107673	2.962209	0.0031
A2009	2.618970	0.182440	14.35528	0.0000
PCEPS(-1)	0.450766	0.024671	18.27132	0.0000
PCEPS(-2)	0.236034	0.024889	9.483553	0.0000
C	0.971642	0.645886	1.504355	0.1325

Weighted Statistics			
R-squared	0.537900	Mean dependent var	103.8129
Adjusted R-squared	0.536171	S.D. dependent var	115.5494
S.E. of regression	70.95726	Sum squared resid	33648460
F-statistic	311.1696	Durbin-Watson stat	1.828402
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	-0.011518	Mean dependent var	18.39578
Sum squared resid	59895125	Durbin-Watson stat	2.247270

Annexure- IV(4)(a)

Wald Test: Equation: Untitled			
Test Statistic	Value	df	Probability
F-statistic	15.97594	(10, 6683)	0.0000
Chi-square	159.7594	10	0.0000
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(13)		2.149882	0.403830
C(14)		1.167302	0.569911
C(15)		2.559837	0.880408
C(16)		7.141076	1.160609
C(17)		5.136578	1.572044
C(18)		1.840946	0.663078
C(19)		-1.394487	0.464962
C(20)		3.422749	0.621466
C(21)		3.281158	1.107673
C(22)		5.149882	2.429817
Restrictions are linear in coefficients.			

Annexure- IV(5)

Regression Result under polynomial curve assumption (EVEBIDTA dependent)

Dependent Variable: EVEBIDTA
Method: Panel EGLS (Cross-section weights)
Date: 02/07/20 Time: 15:33
Sample (adjusted): 2003 2017
Periods included: 15
Cross-sections included: 498
Total panel (unbalanced) observations: 6709
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DER	-0.192432	0.083625	-2.301128	0.0214
DER*DER	0.008603	0.011814	0.728206	0.4665
DER*DER*DER	-0.000262	0.000300	-0.875392	0.3814
DER*DER*DER*DE R	2.41E-06	2.15E-06	1.124674	0.2608
OR01	2.658354	0.284844	9.332681	0.0000
OR01*OR01	-0.167042	0.029339	-5.693482	0.0000
OR01*OR01*OR01	0.003408	0.000792	4.302956	0.0000
OR01*OR01*OR01* OR01	-2.21E-05	6.39E-06	-3.467377	0.0005
FR	-0.034728	0.035522	-0.977635	0.3283
FR*FR	0.000501	0.001163	0.431165	0.6664
FR*FR*FR	-8.61E-07	1.09E-05	-0.078969	0.9371
FR*FR*FR*FR	-5.77E-10	2.94E-08	-0.019620	0.9843
D2D	2.054068	0.248535	8.264695	0.0000
D3E	0.495734	0.320331	1.547568	0.1218
D4F	1.324986	0.392839	3.372845	0.0007
D5G	4.278453	0.661652	6.466320	0.0000
D6H	3.010498	0.899600	3.346485	0.0008
D7I	1.054819	0.442777	2.382283	0.0172
D8J	2.846430	0.293130	9.710484	0.0000
D9K	2.322112	0.364667	6.367767	0.0000
D10N	4.196990	0.874852	4.797373	0.0000
D11O	2.380017	0.769438	3.093191	0.0020
A2009	2.081129	0.106443	19.55153	0.0000
EVEBIDTA(-1)	0.552155	0.013684	40.35063	0.0000
EVEBIDTA(-2)	0.128860	0.013527	9.526128	0.0000
C	-1.989716	0.377229	-5.274559	0.0000

Weighted Statistics			
R-squared	0.622284	Mean dependent var	44.27058
Adjusted R-squared	0.620871	S.D. dependent var	53.60011
S.E. of regression	20.61624	Sum squared resid	2840470.
F-statistic	440.4068	Durbin-Watson stat	1.823013
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.142363	Mean dependent var	13.72376
Sum squared resid	3843050.	Durbin-Watson stat	2.354726

Annexure-IV(5)(a)

Wald Test: Equation: Untitled			
Test Statistic	Value	df	Probability
F-statistic	16.98038	(10, 6683)	0.0000
Chi-square	169.8038	10	0.0000
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(13)		2.054068	0.248535
C(14)		0.495734	0.320331
C(15)		1.324986	0.392839
C(16)		4.278453	0.661652
C(17)		3.010498	0.899600
C(18)		1.054819	0.442777
C(19)		2.846430	0.293130
C(20)		2.322112	0.364667
C(21)		2.380017	0.769438
C(22)		4.196990	0.874852
Restrictions are linear in coefficients.			

Annexure-IV(2)

Regression Result under polynomial curve assumption (PBV dependent)

Dependent Variable: PBV
Method: Panel EGLS (Cross-section weights)
Date: 02/07/20 Time: 15:20
Sample (adjusted): 2003 2017
Periods included: 15
Cross-sections included: 498
Total panel (unbalanced) observations: 6709
Linear estimation after one-step weighting matrix
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DER	-0.044797	0.020464	-2.189068	0.0286
DER*DER	0.008698	0.002954	2.944873	0.0032
DER*DER*DER	-0.000197	7.75E-05	-2.537834	0.0112
DER*DER*DER*DER	1.04E-06	5.65E-07	1.850511	0.0643
OR01	-0.327191	0.059861	-5.465818	0.0000
OR01*OR01	0.022312	0.005812	3.838951	0.0001
OR01*OR01*OR01	-0.000491	0.000152	-3.238860	0.0012
OR01*OR01*OR01*OR01	3.36E-06	1.20E-06	2.810007	0.0050
FR	-0.072882	0.006744	-10.80612	0.0000
FR*FR	0.001905	0.000219	8.694025	0.0000
FR*FR*FR	-1.45E-05	1.99E-06	-7.306184	0.0000
FR*FR*FR*FR	3.34E-08	5.22E-09	6.388387	0.0000
D2D	0.430490	0.080466	5.349948	0.0000
D3E	-0.010036	0.091295	-0.109926	0.9125
D4F	0.097623	0.105786	0.922829	0.3561
D5G	0.461356	0.138669	3.327027	0.0009
D6H	0.365618	0.186270	1.962838	0.0497
D7I	0.150219	0.104786	1.433584	0.1517
D8J	0.073888	0.082846	0.891867	0.3725
D9K	0.396079	0.109485	3.617655	0.0003
D10N	0.571392	0.189018	3.022946	0.0025
D11O	0.617321	0.179756	3.434227	0.0006
A2009	0.256679	0.025334	10.13191	0.0000
PBV(-1)	0.672013	0.013513	49.73083	0.0000
PBV(-2)	0.100012	0.013736	7.280801	0.0000
C	0.760453	0.101089	7.522623	0.0000

Weighted Statistics

R-squared	0.659381	Mean dependent var	10.66305
Adjusted R-squared	0.658106	S.D. dependent var	9.116238
S.E. of regression	5.825366	Sum squared resid	226786.9

F-statistic	517.4857	Durbin-Watson stat	1.997532
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.211791	Mean dependent var	3.375706
Sum squared resid	327241.1	Durbin-Watson stat	2.441419

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