

## Appendix

Years	Month	P.MUDHAR	TPF	NPF	PSP
2010	2010M1	6556	53163	2053	17.91
	2010M2	6592	53299	1054	17.89
	2010M3	6716	52811	2275	17.87
	2010M4	6933	54043	2309	77.09
	2010M5	7231	55067	2540	17.53
	2010M6	7593	58078	2170	17.60
	2010M7	7856	60462	2388	17.59
	2010M8	8207	60972	2470	17.27
	2010M9	8292	63912	2406	17.03
	2010M10	8411	66478	2486	17.31
	2010M11	8895	69086	2628	17.25
	2010M12	8631	76036	2061	17.39
2011	2011M1	8560	75814	2288	17.19
	2011M2	8606	75085	2615	17.14
	2011M3	8767	79651	2675	16.93
	2011M4	8843	79567	2869	16.99
	2011M5	9077	82861	2955	16.75
	2011M6	9549	87025	2937	16.45
	2011M7	9766	89786	3168	16.15
	2011M8	9989	92021	3198	16.24
	2011M9	10020	97756	3253	16.61
	2011M10	10150	101811	3015	16.25
	2011M11	10203	105330	2725	16.16
	2011M12	10229	115415	2588	16.05
2012	2012M1	10133	116518	2722	15.99
	2012M2	10122	114616	2930	16.06
	2012M3	10039	114318	3011	16.03
	2012M4	10349	114018	3098	15.88
	2012M5	10482	115206	3304	15.82
	2012M6	10904	119279	3384	16.02
	2012M7	11023	121018	3533	15.76
	2012M8	11180	123673	3468	16.08
	2012M9	11359	127678	3575	15.94
	2012M10	11438	134453	3499	15.95
	2012M11	11527	138671	3506	15.72
	2012M12	12023	147512	3269	14.90

2013	2013M1	12027	148731	3725	16.1
	2013M2	12056	150795	4197	15.78
	2013M3	12102	156964	4434	15.77
	2013M4	12026	158519	4664	15.61
	2013M5	12168	163858	4883	15.49
	2013M6	12629	163966	4518	14.93
	2013M7	13281	166453	4798	16.03
	2013M8	13299	170222	5249	15.35
	2013M9	13364	171701	4962	15.04
	2013M10	13664	174018	5302	15.19
	2013M11	13878	176292	5561	14.55
	2013M12	13625	183534	4828	14.4
2014	2014M1	13322	177930	5455	14.42
	2014M2	13300	178154	6425	14.35
	2014M3	13498	180945	5953	14.29
	2014M4	13802	185508	6554	14.13
	2014M5	13869	190783	7624	21.32
	2014M6	14312	191594	7542	21.87
	2014M7	14559	194299	8354	18.23
	2014M8	14277	195959	8890	21.37
	2014M9	14356	197141	9175	20.75
	2014M10	14371	207121	9341	22.11
	2014M11	14307	209644	9642	21.18
	2014M12	14354	217858	8632	20.69
2015	2015M1	14207	210761	9608	12.92
	2015M2	14147	210297	10081	12.67
	2015M3	14136	212988	9650	12.63
	2015M4	14388	213973	9312	12.67
	2015M5	14906	215339	9707	12.06
	2015M6	15667	213477	9755	12.1
	2015M7	15729	216083	10010	12.13
	2015M8	15676	216356	10007	11.64
	2015M9	15144	219580	9851	11.64
	2015M10	14925	219478	9852	12.1
	2015M11	14680	220635	9752	11.98
	2015M12	14820	231175	9248	12.21

VAR Lag Order Selection Criteria

Endogenous variables: D(MUDHAR) D(TPF) D(NPF) D(PSP)

Exogenous variables: C

Date: 12/21/16 Time: 14:20

Sample: 2010:01 2015:12

Included observations: 67

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-4648.286	NA	2.41E+55	138.8742	139.0058*	138.9263
1	-4615.676	60.35287	1.47E+55	138.3784	139.0365	138.6388*
2	-4596.710	32.83680*	1.35E+55*	138.2899*	139.4745	138.7586
3	-4581.821	24.00040	1.42E+55	138.3230	140.0341	139.0001
4	-4569.119	18.95793	1.60E+55	138.4215	140.6591	139.3069

\* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Roots of Characteristic Polynomial

Endogenous variables: D(LOGMUDHAR) D(LOGTPF)

D(LOGNPF) D(PSP)

Exogenous variables: C

Lag specification: 1 2

Date: 12/21/16 Time: 02:28

Root	Modulus
0.033766 - 0.614513i	0.615440
0.033766 + 0.614513i	0.615440
0.568849	0.568849
-0.553470	0.553470
0.337546	0.337546
-0.186376 - 0.253520i	0.314656
-0.186376 + 0.253520i	0.314656
-0.090889	0.090889

No root lies outside the unit circle.

VAR satisfies the stability condition.

Date: 12/21/16 Time: 02:29

Sample (adjusted): 2010M05 2015M12

Included observations: 68 after adjustments

Trend assumption: Linear deterministic trend

Series: D(LOGMUDHAR) D(LOGTPF) D(LOGNPF) D(PSP)

Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.637902	116.6183	47.85613	0.0000
At most 1 *	0.310509	47.54120	29.79707	0.0002
At most 2 *	0.186182	22.25874	15.49471	0.0041
At most 3 *	0.114246	8.249504	3.841466	0.0041

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

#### Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.637902	69.07712	27.58434	0.0000
At most 1 *	0.310509	25.28247	21.13162	0.0123
At most 2	0.186182	14.00923	14.26460	0.0548
At most 3 *	0.114246	8.249504	3.841466	0.0041

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Date: 11/23/16 Time: 09:56

Sample (adjusted): 2010M04 2015M12

Included observations: 69 after adjustments

Trend assumption: Linear deterministic trend

Series: MUDHAR TPF NPF PSP

Lags interval (in first differences): 1 to 2

#### Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.446895	66.32021	47.85613	0.0004
At most 1	0.236536	25.45793	29.79707	0.1457
At most 2	0.076324	6.835584	15.49471	0.5968
At most 3	0.019481	1.357428	3.841466	0.2440

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

#### Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.446895	40.86228	27.58434	0.0006
At most 1	0.236536	18.62235	21.13162	0.1083
At most 2	0.076324	5.478156	14.26460	0.6806
At most 3	0.019481	1.357428	3.841466	0.2440

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'S11\*b=I):

MUDHAR	TPF	NPF	PSP
0.002949	-0.000111	-0.000218	0.245564
0.001851	-0.000111	0.000455	-0.144788
0.000375	-5.93E-05	0.000725	0.058177
-0.000650	1.84E-05	0.000562	-0.018922

Unrestricted Adjustment Coefficients (alpha):

D(MUDHAR)	D(DPK)	D(NPF)	D(BHS)
-84.59232	397.3706	77.37758	-3.013216
-57.21816	879.2134	-68.90860	1.966535
5.402159	248.5349	-83.07822	-1.014823
-17.46475	-293.2067	1.537458	0.016761

1 Cointegrating Equation(s):      Log likelihood      -1824.516

Normalized cointegrating coefficients (standard error in parentheses)

MUDHAR	TPF	NPF	PSP
1.000000	-0.037724	-0.073858	83.26761
	(0.00276)	(0.05141)	(12.6230)

Adjustment coefficients (standard error in parentheses)

D(MUDHAR)	-0.249471
	(0.07557)
D(DPK)	1.171884
	(1.13154)
D(NPF)	0.228194
	(0.13191)
D(BHS)	-0.008886
	(0.00246)

2 Cointegrating Equation(s):      Log likelihood      -1815.205

Normalized cointegrating coefficients (standard error in parentheses)

MUDHAR	TPF	NPF	PSP
1.000000	0.000000	-0.610813	354.4021
		(0.10061)	(56.1682)
0.000000	1.000000	-14.23391	7187.388
		(2.43173)	(1357.56)

Adjustment coefficients (standard error in parentheses)

D(MUDHAR)	-0.355396	0.015787
	(0.08537)	(0.00386)
D(TPF)	2.799524	-0.142176
	(1.27518)	(0.05766)
D(NPF)	0.100627	-0.000930
	(0.15258)	(0.00690)
D(PSP)	-0.005246	0.000116
	(0.00277)	(0.00013)

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3 Cointegrating Equation(s):            Log likelihood            -1812.466

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Normalized cointegrating coefficients (standard error in parentheses)

MUDHAR	TPF	NPF	PSP
1.000000	0.000000	0.000000	2284.949 (645.868)
0.000000	1.000000	0.000000	52175.40 (15094.4)
0.000000	0.000000	1.000000	3160.621 (1011.72)

Adjustment coefficients (standard error in parentheses)

D(MUDHAR)	-0.353369 (0.08583)	0.015467 (0.00412)	-0.003707 (0.02166)
D(TPF)	2.892759 (1.27754)	-0.156902 (0.06137)	0.494010 (0.32234)
D(NPF)	0.069461 (0.14871)	0.003993 (0.00714)	-0.108486 (0.03752)
D(PSP)	-0.005626 (0.00274)	0.000176 (0.00013)	0.000816 (0.00069)

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Pairwise Granger Causality Tests

Date: 11/23/16 Time: 09:58

Sample: 2010M01 2015M12

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
TPF does not Granger Cause MUDHAR	70	4.79167	0.0115
MUDHAR does not Granger Cause TPF		3.49615	0.0361
NPF does not Granger Cause MUDHAR	70	0.44615	0.6420
MUDHAR does not Granger Cause NPF		1.10379	0.3377
PSP does not Granger Cause MUDHAR	70	0.03566	0.9650
MUDHAR does not Granger Cause PSP		2.90780	0.0617
NPF does not Granger Cause TPF	70	0.82693	0.4419
TPF does not Granger Cause NPF		2.84968	0.0651
BHS does not Granger Cause TPF	70	0.10577	0.8998
TPF does not Granger Cause BHS		2.30478	0.1079
PSP does not Granger Cause NPF	70	0.42520	0.6554
NPF does not Granger Cause PSP		8.34830	0.0006

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Vector Error Correction Estimates

Date: 11/23/16 Time: 09:59

Sample (adjusted): 2010M04 2015M12

Included observations: 69 after adjustments

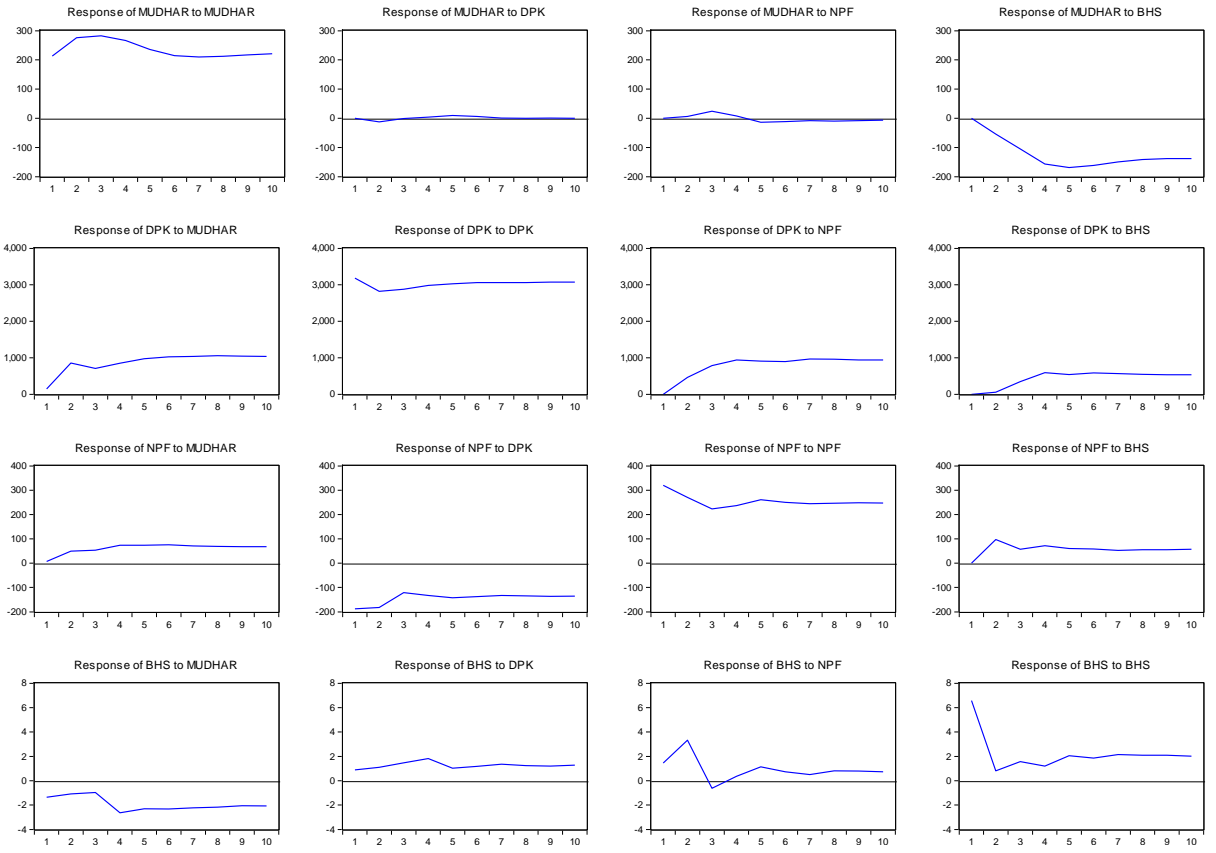
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1			
MUDHAR(-1)	1.000000			
TPF(-1)	-0.037724 (0.00276) [-13.6543]			
NPF(-1)	-0.073858 (0.05141) [-1.43662]			
PSP(-1)	83.26761 (12.6230) [ 6.59648]			
C	-7359.434			
Error Correction:	D(MUDHAR)	D(DPK)	D(NPF)	D(BHS)
CointEq1	-0.249471 (0.07557) [-3.30135]	1.171884 (1.13154) [ 1.03565]	0.228194 (0.13191) [ 1.72995]	-0.008886 (0.00246) [-3.61047]
D(MUDHAR(-1))	0.492246 (0.12438) [ 3.95757]	2.214824 (1.86250) [ 1.18917]	0.081842 (0.21712) [ 0.37695]	0.003660 (0.00405) [ 0.90338]
D(MUDHAR(-2))	0.092281 (0.13514) [ 0.68284]	-2.765606 (2.02365) [-1.36664]	-0.128932 (0.23590) [-0.54654]	0.001662 (0.00440) [ 0.37747]
D(TPF(-1))	-0.007608 (0.00989) [-0.76935]	0.011646 (0.14807) [ 0.07865]	-0.006888 (0.01726) [-0.39906]	0.000557 (0.00032) [ 1.72830]
D(TPF(-2))	0.009705 (0.00989) [ 0.98153]	0.105839 (0.14806) [ 0.71484]	0.004725 (0.01726) [ 0.27377]	-3.68E-05 (0.00032) [-0.11420]
D(NPF(-1))	0.038636 (0.07751) [ 0.49847]	1.494501 (1.16063) [ 1.28766]	-0.205863 (0.13530) [-1.52154]	0.009178 (0.00252) [ 3.63561]
D(NPF(-2))	0.149953 (0.08442) [ 1.77629]	0.990272 (1.26411) [ 0.78338]	-0.293750 (0.14736) [-1.99339]	-0.003655 (0.00275) [-1.32919]
D(PSP(-1))	12.54282 (4.68437) [ 2.67759]	-89.61555 (70.1445) [-1.27759]	-4.271975 (8.17701) [-0.52244]	-0.136690 (0.15257) [-0.89590]
D(PSP(-2))	6.939737 (3.42310) [ 2.02732]	-38.90416 (51.2580) [-0.75899]	-6.092064 (5.97534) [-1.01953]	-0.110284 (0.11149) [-0.98916]

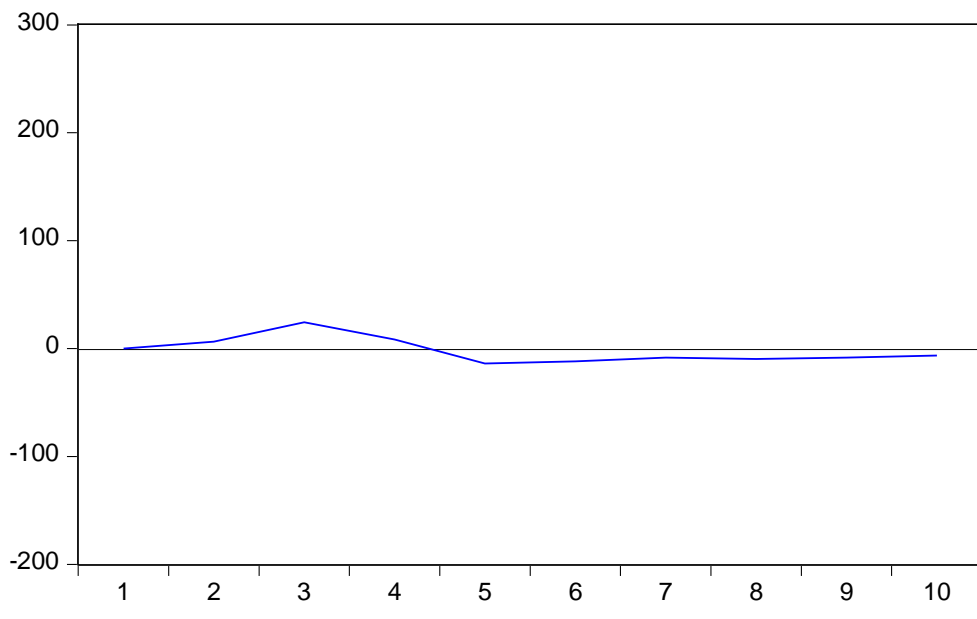
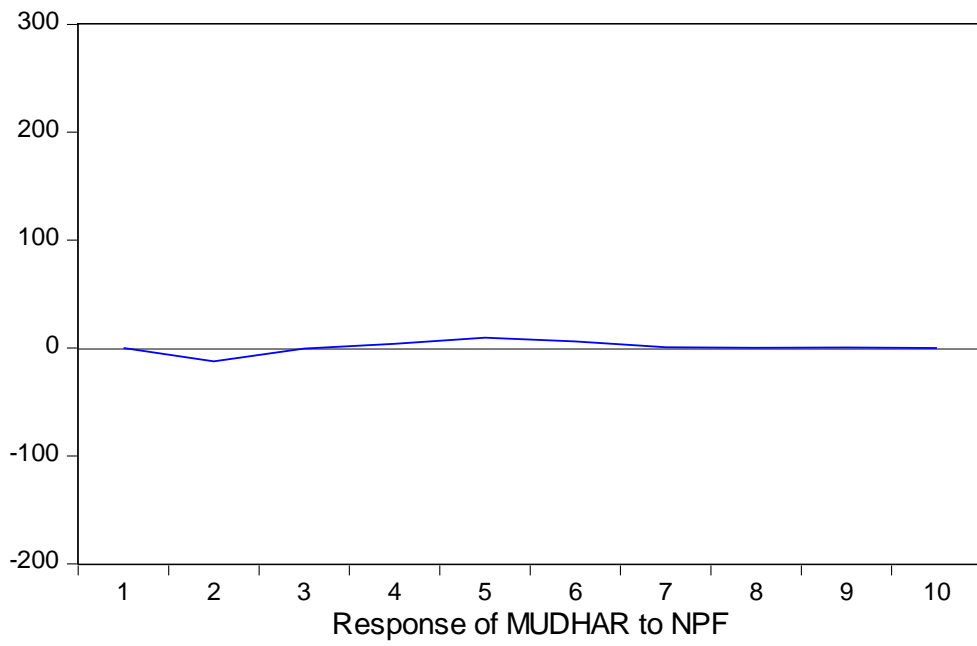
C	23.45327 (54.6320) [ 0.42930]	2066.180 (818.068) [ 2.52568]	170.6924 (95.3653) [ 1.78988]	-2.738734 (1.77940) [-1.53913]
R-squared	0.279334	0.106910	0.148978	0.606162
Adj. R-squared	0.169401	-0.029324	0.019161	0.546085
Sum sq. resids	2672888.	5.99E+08	8144544.	2835.535
S.E. equation	212.8454	3187.180	371.5415	6.932526
F-statistic	2.540963	0.784754	1.147598	10.08975
Log likelihood	-462.3842	-649.1207	-500.8237	-226.1046
Akaike AIC	13.69230	19.10495	14.80648	6.843612
Schwarz SC	14.01608	19.42873	15.13027	7.167395
Mean dependent	117.4493	2584.986	101.0580	-0.082029
S.D. dependent	233.5440	3141.453	375.1530	10.28974
Determinant resid covariance (dof adj.)		2.04E+18		
Determinant resid covariance		1.09E+18		
Log likelihood		-1824.516		
Akaike information criterion		54.15988		
Schwarz criterion		55.58453		



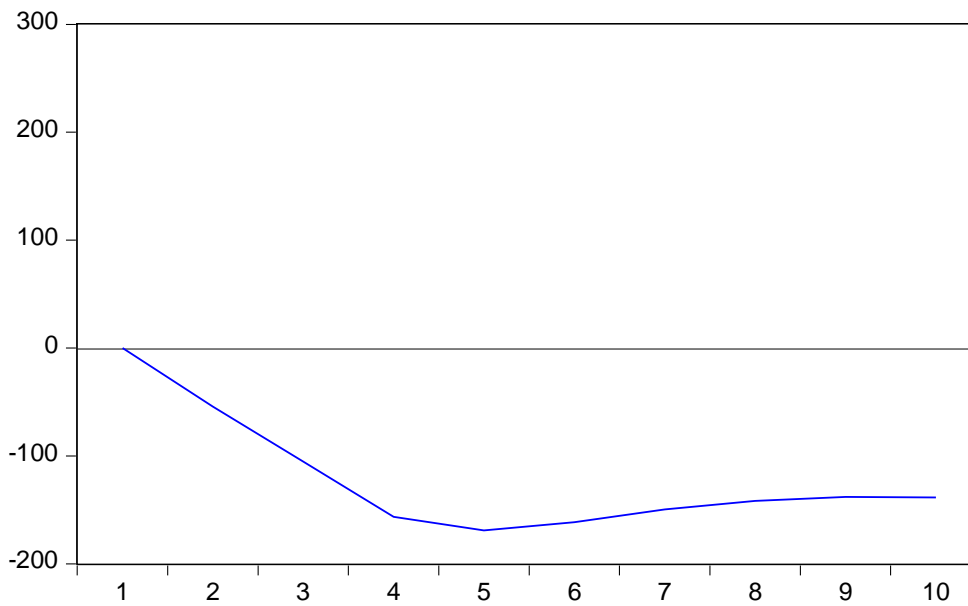
Response to Cholesky One S.D. Innovations



Response of MUDHAR to DPK



### Response of MUDHAR to BHS



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of  
MUDH  
AR:

Period	S.E.	MUDHAR	TPF	NPF	PSP
1	212.8454	100.0000	0.000000	0.000000	0.000000
2	353.2791	97.49455	0.122656	0.032191	2.350603
3	465.0474	93.16016	0.070947	0.290779	6.478116
4	558.4813	87.37243	0.053989	0.223507	12.35007
5	629.5199	82.76821	0.065541	0.224643	16.94161
6	684.4988	79.81727	0.063318	0.219573	19.89984
7	731.4863	78.12404	0.055519	0.205745	21.61470
8	774.8032	77.14307	0.049494	0.198628	22.60881
9	816.4295	76.54379	0.044601	0.189320	23.22229
10	857.0754	76.10249	0.040472	0.177381	23.67966

Varian  
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position  
of TPF:

Period	S.E.	MUDHAR	TPF	NPF	PSP
1	3187.180	0.203559	99.79644	0.000000	0.000000
2	4367.871	3.978520	94.88641	1.120671	0.014401
3	5349.546	4.409588	92.25116	2.916236	0.423020
4	6283.214	5.020707	89.44236	4.339470	1.197463
5	7121.950	5.775047	87.70364	5.012181	1.509132
6	7892.470	6.378360	86.47170	5.366779	1.783162
7	8600.863	6.832088	85.45033	5.784194	1.933387
8	9255.327	7.203352	84.70529	6.069646	2.021709

9	9867.018	7.456005	84.22911	6.245241	2.069640
10	10442.18	7.638518	83.85993	6.390915	2.110638

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Varian  
ce  
Decom  
position  
of NPF:

Period	S.E.	MUDHAR	TPF	NPF	PSP
1	371.5415	0.037488	25.68439	74.27812	0.000000
2	506.1841	0.970939	26.83829	68.52341	3.667364
3	571.7637	1.635050	25.54013	68.93128	3.893539
4	641.2757	2.627580	24.60054	68.41739	4.354490
5	713.1584	3.183134	23.85759	68.72346	4.235817
6	774.0874	3.666099	23.40049	68.76147	4.171941
7	827.2122	3.942049	23.06979	68.93775	4.050408
8	878.1352	4.109305	22.83444	69.06775	3.988507
9	926.9122	4.219915	22.65504	69.18512	3.939926
10	972.8885	4.319874	22.51177	69.24875	3.919608

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Varian  
ce  
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position  
of PSP:

Period	S.E.	MUDHAR	TPF	NPF	PSP
1	6.932526	3.835155	1.668345	4.374629	90.12187
2	7.884771	4.844175	3.230029	21.19712	70.72867
3	8.251261	5.790708	6.136269	19.92662	68.14641
4	8.935832	13.62062	9.330857	17.14909	59.89943
5	9.572621	17.62892	9.276158	16.33659	56.75833
6	10.12080	21.08638	9.661239	15.13032	54.12206
7	10.68119	23.29885	10.25797	13.80309	52.64010
8	11.19265	24.94871	10.56419	13.09482	51.39229
9	11.66105	26.10679	10.80203	12.53327	50.55792
10	12.10235	27.19348	11.13300	11.99704	49.67649

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Cholesky  
Ordering:  
MUDHAR  
TPF  
NPF  
PSP

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	MUDHAR	TPF	PSP	NPF
Mean	11626.69	141730.8	16.86792	5110.639
Median	12024.50	148121.5	16.03000	3650.000
Maximum	15729.00	231175.0	77.09000	10081.00
Minimum	6556.000	52811.00	11.64000	1054.000
Std. Dev.	2635.768	56812.56	7.607271	2845.552
Skewness	-0.259474	-0.099962	7.013423	0.660011
Kurtosis	1.854761	1.624891	56.13365	1.869334
Jarque-Bera	4.742639	5.792686	9059.813	9.062593
Probability	0.093357	0.055225	0.000000	0.010767
Sum	837122.0	10204620	1214.490	367966.0
Sum Sq. Dev.	4.93E+08	2.29E+11	4108.811	5.75E+08
Observations	72	72	72	72

Null Hypothesis: PSP has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-7.331311	0.0000
Test critical values:		
1% level	-3.525618	
5% level	-2.902953	
10% level	-2.588902	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
Dependent Variable: D(PSP)  
Method: Least Squares  
Date: 11/23/16 Time: 11:07  
Sample (adjusted): 2010M02 2015M12  
Included observations: 71 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BHS(-1)	-0.878296	0.119801	-7.331311	0.0000
C	14.79236	2.222956	6.654366	0.0000
R-squared	0.437873	Mean dependent var		-0.080282
Adjusted R-squared	0.429726	S.D. dependent var		10.14168
S.E. of regression	7.658638	Akaike info criterion		6.937310
Sum squared resid	4047.176	Schwarz criterion		7.001047
Log likelihood	-244.2745	Hannan-Quinn criter.		6.962656
F-statistic	53.74811	Durbin-Watson stat		2.018540
Prob(F-statistic)	0.000000			

Null Hypothesis: D(PSP) has a unit root  
 Exogenous: Constant  
 Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-14.13662	0.0001
Test critical values:		
1% level	-3.527045	
5% level	-2.903566	
10% level	-2.589227	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(PSP,2)  
 Method: Least Squares  
 Date: 11/23/16 Time: 11:07  
 Sample (adjusted): 2010M03 2015M12  
 Included observations: 70 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(PSP(-1))	-1.492248	0.105559	-14.13662	0.0000
C	-0.122843	1.070576	-0.114745	0.9090
R-squared	0.746121	Mean dependent var		0.003571
Adjusted R-squared	0.742387	S.D. dependent var		17.64688
S.E. of regression	8.956771	Akaike info criterion		7.250852
Sum squared resid	5455.215	Schwarz criterion		7.315095
Log likelihood	-251.7798	Hannan-Quinn criter.		7.276370
F-statistic	199.8441	Durbin-Watson stat		2.316010
Prob(F-statistic)	0.000000			

Null Hypothesis: MUDHAR has a unit root  
 Exogenous: Constant  
 Lag Length: 1 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.755300	0.3994
Test critical values:		
1% level	-3.527045	
5% level	-2.903566	
10% level	-2.589227	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(MUDHAR)  
 Method: Least Squares  
 Date: 11/23/16 Time: 11:10  
 Sample (adjusted): 2010M03 2015M12  
 Included observations: 70 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MUDHAR(-1)	-0.017869	0.010180	-1.755300	0.0838
D(MUDHAR(-1))	0.322594	0.112949	2.856097	0.0057
C	288.3457	123.9668	2.325991	0.0231
R-squared	0.162516	Mean dependent var		117.5429
Adjusted R-squared	0.137517	S.D. dependent var		231.8468
S.E. of regression	215.3161	Akaike info criterion		13.62400
Sum squared resid	3106188.	Schwarz criterion		13.72037
Log likelihood	-473.8401	Hannan-Quinn criter.		13.66228
F-statistic	6.500774	Durbin-Watson stat		1.927052
Prob(F-statistic)	0.002629			

Null Hypothesis: D(MUDHAR) has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.715107	0.0000
Test critical values:		
1% level	-3.527045	
5% level	-2.903566	
10% level	-2.589227	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
Dependent Variable: D(MUDHAR,2)  
Method: Least Squares  
Date: 11/23/16 Time: 11:10  
Sample (adjusted): 2010M03 2015M12  
Included observations: 70 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MUDHAR(-1))	-0.648143	0.113409	-5.715107	0.0000
C	76.70731	29.25414	2.622101	0.0108
R-squared	0.324475	Mean dependent var		1.485714
Adjusted R-squared	0.314541	S.D. dependent var		264.0168
S.E. of regression	218.5860	Akaike info criterion		13.64039
Sum squared resid	3249030.	Schwarz criterion		13.70463
Log likelihood	-475.4137	Hannan-Quinn criter.		13.66591
F-statistic	32.66245	Durbin-Watson stat		1.927570
Prob(F-statistic)	0.000000			

Null Hypothesis: TPF has a unit root  
Exogenous: Constant  
Lag Length: 0 (Automatic - based on SIC, maxlag=11)

t-Statistic Prob.\*

Augmented Dickey-Fuller test statistic		-0.178075	0.9357
Test critical values:	1% level	-3.525618	
	5% level	-2.902953	
	10% level	-2.588902	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(TPF)  
 Method: Least Squares  
 Date: 11/23/16 Time: 11:11  
 Sample (adjusted): 2010M02 2015M12  
 Included observations: 71 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TPF(-1)	-0.001194	0.006705	-0.178075	0.8592
C	2674.940	1013.488	2.639341	0.0103
R-squared	0.000459	Mean dependent var		2507.211
Adjusted R-squared	-0.014027	S.D. dependent var		3130.689
S.E. of regression	3152.569	Akaike info criterion		18.97759
Sum squared resid	6.86E+08	Schwarz criterion		19.04133
Log likelihood	-671.7044	Hannan-Quinn criter.		19.00293
F-statistic	0.031711	Durbin-Watson stat		1.994934
Prob(F-statistic)	0.859186			

Null Hypothesis: D(TPF) has a unit root  
 Exogenous: Constant  
 Lag Length: 0 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.312013	0.0000
Test critical values:	1% level	-3.527045
	5% level	-2.903566
	10% level	-2.589227

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(TPF,2)  
 Method: Least Squares  
 Date: 11/23/16 Time: 11:11  
 Sample (adjusted): 2010M03 2015M12  
 Included observations: 70 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TPF(-1))	-1.053977	0.126802	-8.312013	0.0000
C	2670.224	484.3443	5.513070	0.0000



R-squared	0.503974	Mean dependent var	148.6286
Adjusted R-squared	0.496679	S.D. dependent var	4452.682
S.E. of regression	3158.959	Akaike info criterion	18.98203
Sum squared resid	6.79E+08	Schwarz criterion	19.04627
Log likelihood	-662.3710	Hannan-Quinn criter.	19.00755
F-statistic	69.08955	Durbin-Watson stat	1.911539
Prob(F-statistic)	0.000000		

Null Hypothesis: NPF has a unit root  
Exogenous: Constant  
Lag Length: 3 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.173689	0.9361
Test critical values:		
1% level	-3.530030	
5% level	-2.904848	
10% level	-2.589907	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
Dependent Variable: D(NPF)  
Method: Least Squares  
Date: 11/23/16 Time: 11:12  
Sample (adjusted): 2010M05 2015M12  
Included observations: 68 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPF(-1)	-0.002904	0.016717	-0.173689	0.8627
D(NPF(-1))	-0.107882	0.127820	-0.844019	0.4019
D(NPF(-2))	-0.099351	0.122041	-0.814077	0.4187
D(NPF(-3))	0.243612	0.115707	2.105425	0.0392
C	113.9114	94.78176	1.201828	0.2339

R-squared	0.113143	Mean dependent var	102.0441
Adjusted R-squared	0.056834	S.D. dependent var	377.8522
S.E. of regression	366.9577	Akaike info criterion	14.71906
Sum squared resid	8483450.	Schwarz criterion	14.88226
Log likelihood	-495.4479	Hannan-Quinn criter.	14.78372
F-statistic	2.009337	Durbin-Watson stat	1.987079
Prob(F-statistic)	0.103930		

Null Hypothesis: D(NPF) has a unit root  
Exogenous: Constant  
Lag Length: 2 (Automatic - based on SIC, maxlag=11)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.955665	0.0029
Test critical values:		
1% level	-3.530030	

5% level	-2.904848
10% level	-2.589907

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(NPF,2)

Method: Least Squares

Date: 11/23/16 Time: 11:12

Sample (adjusted): 2010M05 2015M12

Included observations: 68 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NPF(-1))	-0.976222	0.246791	-3.955665	0.0002
D(NPF(-1),2)	-0.136454	0.185231	-0.736667	0.4640
D(NPF(-2),2)	-0.239636	0.112557	-2.129020	0.0371
C	100.3028	52.93115	1.894968	0.0626

R-squared	0.601108	Mean dependent var	-7.911765
Adjusted R-squared	0.582409	S.D. dependent var	563.5402
S.E. of regression	364.1667	Akaike info criterion	14.69012
Sum squared resid	8487513.	Schwarz criterion	14.82068
Log likelihood	-495.4642	Hannan-Quinn criter.	14.74185
F-statistic	32.14808	Durbin-Watson stat	1.981608
Prob(F-statistic)	0.000000		