Appendices

Appendix 1: Variables' Summary Statistics

Table I

Variables' Summary Statistics

Table I presents summary statistics for the variables used in the regression analysis. The summary statistics presented are as follows: mean, number of observations, minimum and maximum values, median, standard deviation, kurtosis and skewness.

Variable	**Obs**	**Mean**	**Min**	**Max**	**Median**	**Sd**	**kurtosis**	**Skewness**
LnNumTrans	124	6.182	3.332	6.929	6.335	0.662	10.224	-2.595
LnVolumTrans	124	10.276	7.852	12.576	10.328	0.857	3.358	-0.311
LnGDP	124	12.694	12.299	12.989	12.726	0.201	1.695	-0.257
FTSE100	124	4,364	1,235	6, 930	4.631	1,708	1.684	-0.274
LIBOR3M	124	6.007	0.49	15.190	5.705	4.039	2.502	0.459

Appendix 2: Correlation Matrix between Variables

Table II

Correlation Matrix between Variables

Table II reports the correlation coefficients between the variables of interest, *LnNumberTrans, LnVolumeTrans, LnGDP, LnFTSE100 and Ln LIBOR3M*, The following code applies for the statistical significance of the coefficients: * p<0.05.

Variables	Correlation				
	LnNumTrans	*LnVolumTrans*	*LnGDP*	*FTSE100*	*LIBOR3M*
LnNumberTrans	1,000	0,665	1,000	0,775	
LnVolumeTrans	0,665	1,000	0,249*	0,571	
LnGDP	0,584	0,342	1,000	0,869	
FTSE100	0,775	0,571	0,036	1,000	
LIBOR3M					1,000

Appendix 3: Augmented-Dickey Fuller Test

Table III

Augmented-Dickey Fuller Test

Table III summarizes the results of the Augmented-Dickey Fuller Test. It tests the null hypothesis of a unit root on a specific data set. Results are shown for the test on the levels and after first differences are applied, both with a constant and a tendency and a constant. Furthermore, the order of integration is indicated based on the conclusions of the test. The significance of these coefficients was tested through a t-test, and the mean difference is presented using the following code to highlight its statistical significance: p-values: *** p<0.01, ** p<0.05, * p<0.1.

	Level				**First Difference**				
	Trend and Intercept		**Intercept**		**Trend and Intercept**		**Intercept**		**Integration Order**
Variables	ADF	p-value	ADF	p-value	ADF	p-value	ADF	p-value	
LnNumTrans	-2,522	0,317	-2,767	0,066	-14,008	0,000	-13,868	0,000	I(1)
LnVolumTrans	-2,598	0,234	-3,489	0,059	-11,602	0,000	-11,642	0,000	I(1)
LnGDP	-2,177	0,498	-0,292	0,922	-5,402	0,000	-5,402	0,000	I(1)
FTSE100	-2,228	0,469	-1,587	0,486	-11,219	0,000	-11,232	0,000	I(1)
LIBOR3M									I(1)
Obs	122		122		122		122		

Appendix 4: Model 1's Granger Causality Test

Table IV

Granger Causality Test

Dependent Variable: NumTrans				**Dependent Variable: GDP**				**Dependent Variable: FTSE100**			
Explanatory Variables	**Chi-sq**	**df**	**Prob**	**Explanatory Variables**	**Chi-sq**	**df**	**Prob**	**Explanatory Variables**	**Chi-sq**	**df**	**Prob**
GDP	12,342	2	0,002	NumTrans	11,262	2	0,004	NumTrans	2,483	2	0,289
FTSE	12,903	2	0,001	FTSE	2,8901	2	0,236	GDP	12,569	2	0,001
All	29,015	4	0,000	All	17,791	4	0,001	All	14,462	4	0,006

Appendix 5: Model 2's Granger Causality Test

Table V

Granger Causality Test

Dependent Variable: VolumTrans				**Dependent Variable: GDP**				**Dependent Variable: FTSE100**			
Explanatory Variables	**Chi-sq**	**df**	**Prob**	**Explanatory Variables**	**Chi-sq**	**df**	**Prob**	**Explanatory Variables**	**Chi-sq**	**df**	**Prob**
GDP	18,259	2	0,000	VolumTrans	2,864	2	0,239	VolumTrans	3,114	2	0,211
FTSE	0,070	2	0,967	FTSE	4,101	2	0,129	GDP	3,777	2	0,151
All	19,354	4	0,000	All	7,817	4	0,099	All	6,858	4	0,144

Appendix 6: Model 1's Johansen Cointegration Test

Table VI

Johansen Cointegration Tests

Table VI presents the results of the Johansen Cointegration procedure aimed at assessing the existence of cointegration relationships between the twice lagged variables LnNumTrans, LnGDP and LnFTSE100, in order to further establish a VEC Model. It allows for the existence of linear deterministic trends in data. The procedure includes two tests: the Trace Test and the Maximum Eigenvalue Test. * denotes rejection at the 5% level of the of the null hypothesis of none, at least 1, at least 2, and so son number of cointegration vectors. The Prob* represent MacKinnon-Haug-Michelis P-values, which are significant if lesser than 0,05 (for a 5% level of significance. Both tests indicate 1 cointegration equation at the 5% level.

Trace Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0,05 Critical Value	Prob.**
None *	0,374	72,567	47,856	0,000
At most 1	0,088	16,764	29,797	0,657
At most 2	0,037	5,788	15,495	0,720
At most 3	0,011	1,328	3,842	0,249

Maximum Eigenvalue Test

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0,05 Critical Value	Prob.**
None *	0,374	55,803	27,584	0,000
At most 1	0,088	10,975	21,132	0,649
At most 2	0,037	4,460	14,265	0,808
At most 3	0,011	1,328	3,842	0,249

Appendix 7: Model 1's Lag Length Criteria

Table VII

Lag Order Selection Criteria

Table VII presents lag selection criteria, using the following different methods: LogLikelihodd, Sequential Modif, Final Prediction Error, Akaike Information Criterion, Schwarz information criterion and Hannan-Quinn information criterion. The symbol * indicates lag order selected by the criterion

Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	-2538,010	NA	3,12e+15	44,191	44,263	44,221
1	-2487,217	98,053	1,51e+15	43,465	43,751*	43,581*
2	-2474,396	24,081*	1,41e+15*	43,398*	43,899	43,602
3	-2466,760	13,944	1,45e+15	43,422	44,138	43,713
4	-2461,505	9,321	1.55e+15	43,487	44,418	43,865
5	-2458,498	5,178	1,72e+15	43,591	44,737	44,056
6	-2454,281	7,041	1,88e+15	43,674	45,035	44,227
7	-2449,645	7,498	2,04e+15	43,750	45,326	44,390
8	-2445,283	6,827	2,22e+15	43,831	45,621	44,558

Appendix 8: Model 1's Lagrange Multiplier Test

Table VIII

Residual Serial Correlation Lagrange Multiplier Test

Table VIII presents the results of the Lagrange Multiplier Test for Autocorrelation in the residuals of the VAR(2) Model. Below are the probabilities from chi-square with 9 degrees of freedom for the null hypothesis of no serial correlation

Lags	LM-Stat	Prob
1	10,864	0,285
2	11,922	0,218
3	14,169	0,116
4	3,382	0,947
5	6,021	0,738
6	10,689	0,298
7	6,771	0,661
8	7,283	0,608
9	12,146	0,205
10	6,858	0,652
11	13,854	0,128
12	8,869	0,449

Appendix 9: VEC Model 1

Table IX

Vector Error Correction Model 1

Table IX presents the results from the Vector Error Correction Model which includes the lagged variables LnNumTrans, LnGDP and LnFTSE100, LnLIBOR3M (as exogenous variable) and a constant. The output comprises two segments. The first enhances the results from the previous Johansen procedure. The second segment includes the error correction terms (in this case, CointEq1 since the Johansen Procedure determined the existence of only one cointegration) and the results from the second step VAR in first differences. Robust standard errors are reported in parenthesis and the following code applies for p-values: *** p<0.01, ** p<0.05, * p<0.1.

Cointegration Equation	CointEq1
LnNumTrans(-1)	1
LnGDP(-1)	-0,724*
	(0,34)
LnFTSE100(-1)	-0,447*
	(-0,302)
C	0,224

	d(LnNumTrans)	d(LnGDP)	d(LnFTSE100)
CointEq1	-0,206***	-0,947*	-0,105
	(0.031)	(0.456)	(0.099)
d(LnNumTrans)(-1)	-0,304**	0,012**	0,698
	(0.082)	(-0,003)	(0.472)
d(LnNumTrans)(-2)	-0,001	0,003	0,486
	(0.088)	(0,003)	(0.486)
d(LnGDP)(-1)	0,012**	0,460***	0,060**
	(0.004)	(0.093)	(0.019)
d(LnGDP)(-2)	-0,002	0,097	-0,055**
	(0.004)	(0.085)	(0.019)
d(LnFTSE100)(-1)	0,048**	0,004	-0,068
	(0.017)	(0.006)	(0.093)
d(LnFTSE100)(-2)	0,043**	0,719*	-0,032
	(0.017)	(0.438)	(0.095)
C	-0,150	0,003*	0,007
	(0,047)	(0,002)	(0,029)
d(LIBOR3M)	-0,079**	-0,007**	-0,006
	(-0,026)	(-0,001)	(0,016)
R-squared	0,396	0,493	0,120
Adj. R-squared	0,351	0,456	0,056
Sum sq. resids	1,824	0,002	0,708
S.E. equation	0,129	0,005	0,081
F-statistic	8,919	13,242	1,865

Appendix 10: VAR Model 1

Table X

Vector Autoregressive Model 1

Table X summarizes the results from regressing the first differences of LnNumberTrans, LnGDP, and LnFTSE100, on 2-quarter lagged variables of each other and the non-lagged first differences of d(LIBOR3M). LnNumberTrans is used as measure of M&A activity, through the number of M&A deals completed within the period, LnGDP as proxy for economic output, LnFTSE100 as the stock-market performance indicator and LIBOR3M as representative of short-term interest rates . Robust standard errors are reported in parenthesis and the following code applies for p-values: *** p<0.01, ** p<0.05, * p<0.1.

	d(LnNumTrans)	d(LnGDP)	d(LnFTSE100)
d(LnNumTrans)(-1)	-0,412**	-0,060**	-0,050
	(0.094)	(-2,254)	(0.479)
d(LnNumTrans)(-2)	-0,265**	-0,452	-0,050
	(0.097)	(-2,333)	(0.496)
d(LnGDP)(-1)	0,012**	0,542***	0,061**
	(0.004)	(0.091)	(0.019)
d(LnGDP)(-2)	-0,004	0,009	-0,060**
	(0.004)	(0.089)	(0.019)
d(LnFTSE100)(-1)	0,053**	0,329	-0,058
	(0.018)	(0.433)	(0.092)
d(LnFTSE100)(-2)	0,043**	0,692*	-0,033
	(0.018)	(0.445)	(0.095)
C	-10,873	7,605**	4,442
	(-8,628)	(-2,079)	(-4,423)
d(LIBOR3M)	-0,596	3,095	3,079
	(-1,018)	(-2,453)	(-5,219)
R-squared	0,251	0,492	0,116
Adj. R-squared	0,204	0,461	0,0614
Sum sq. resids	480.711	2.79E+08	12634358
S.E. equation	65,223	1571,739	334,378
F-statistic	5,396	15,635	2,121

Appendix 11: Model 2's Johansen Cointegration Test

Table XI

Johansen Cointegration Tests

Table XI presents the results of the Johansen Cointegration procedure aimed at assessing the existence of cointegration relationships between the twice lagged variables LnVolumTrans, LnGDP and LnFTSE100, in order to further establish a VEC Model. It allows for the existence of linear deterministic trends in data. The procedure includes two tests: the Trace Test and the Maximum Eigenvalue Test. * denotes rejection at the 5% level of the of the null hypothesis of none, at least 1, at least 2, and so son number of cointegration vectors. The Prob* represent MacKinnon-Haug-Michelis P-values, which are significant if lesser than 0,05 (for a 5% level of significance. Both tests indicate 1 cointegration equation at the 5% level.

Trace Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0,05 Critical Value	Prob.**
None *	0,348	65,214	29,797	0,000
At most 1	0,092	13,873	15,495	0,087
At most 2	0,019	2,258	3,842	0,133

Maximum Eigenvalue Test

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0,05 Critical Value	Prob.**
None *	0,348	51,341	21,132	0,000
At most 1	0,092	11,614	14,265	0,126
At most 2	0,019	2,258	3,842	0,133

Appendix 12: Model 2's Lag Length Criteria

Table XII

Lag Order Selection Criteria

Table XII presents lag selection criteria, using the following different methods: LogLikelihodd, Sequential Modif, Final Prediction Error, Akaike Information Criterion, Schwarz information criterion and Hannan-Quinn information criterion. The symbol * indicates lag order selected by the criterion

Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	51,441	NA	9.11e-05	-0,790	-0,647	-0,732
1	476,562	813,276	6.55e-08	-8,027	-7,669	-7,882
2	512,355	66,606	4.11e-08*	-8.493*	-7.920	-8.261*
3	518,966	11,958	4.29e-08	-8,452	-7,664	-8,132
4	528,676	17.056*	4.25e-08	-8,464	-7,461	-8,057
5	532,865	7,140	4.63e-08	-8,380	-7,163	-7,886
6	541,875	14,885	4.65e-08	-8,380	-6,948	-7,799
7	549,950	12,920	4.75e-08	-8,364	-6,717	-7,696
8	554,723	7,389	5.16e-08	-8,291	-6,429	-7,535

Appendix 13: Model 2's Lagrange Multiplier Test

Table XIII

Residual Serial Correlation Lagrange Multiplier Test

Tables XIII presents the results of the Lagrange Multiplier Test for Autocorrelation in the residuals. Below are the probabilities from chi-square with 9 degrees of freedom for the null hypothesis of no serial correlation

Lags	LM-Stat	Prob
1	13,644	0,136
2	22,660	0,164
3	6,242	0,716

Appendix 14: VEC Model 2

Table XIV

Vector Error Correction Model 2

Table XIV presents the results from the Vector Error Correction Model which includes the lagged variables LnVolumTrans, LnGDP and LnFTSE100, LnLIBOR3M (as exogenous variable) and a constant. The output comprises two segments. The first enhances the results from the previous Johansen procedure. The second segment includes the error correction terms (in this case, CointEq1 since the Johansen Procedure determined the existence of only one cointegration) and the results from the second step VAR in first differences. Robust standard errors are reported in parenthesis and the following code applies for p-values: *** p<0.01, ** p<0.05, * p<0.1.

Cointegration Equation	CointEq1		
LnVolumTrans(-1)	1		
LnGDP(-1)	-1,33*		
	(-1,026)		
LnFTSE100(-1)	-1,861**		
	-0,377		
C	0,22		
	d(LnVolumTrans)	d(LnGDP)	d(LnFTSE100)
CointEq1	-0,514**	0,002*	0,026
	(0.109)	(0.001)	(0.020)
d(LnVolumTrans)(-1)	-0,193*	-0,001	-0,021
	(0.108)	(0.001)	(0.020)
d(LnVolumTrans)(-2)	-0,083	-0,001	-0,012
	(0.091)	(0.001)	(0.017)
d(LnGDP)(-1)	0,248**	0,483**	2,359*
	(-0,815)	(0.0887)	(-1,493)
d(LnGDP)(-2)	-0,103	0,155*	-2,426
	(-0,799)	(0.087)	(-1,462)
d(LnFTSE100)(-1)	-0,534	0,007	0,024
	(0.528)	(0.006)	(0.097)
d(LnFTSE100)(-2)	-0,132	0,015*	-0,035
	(0.532)	(0.006)	(0.097)
C	-0,530**	0,004*	0,023
	(0.123)	(0.001)	(0.023)
d(LIBOR3M)	-0,084**	0,000	-0,001
	(0.019)	(0.000)	(0.004)
R-squared	0,400	0,439	0,057
Adj. R-squared	0,357	0,399	-0,010
Sum sq. resids	22,942	0,003	0,769
S.E. equation	0,453	0,005	0,083
F-statistic	9,339	10,941	0,852

Appendix 15: VAR Model 2

Table XI

Vector Autoregressive Model 2

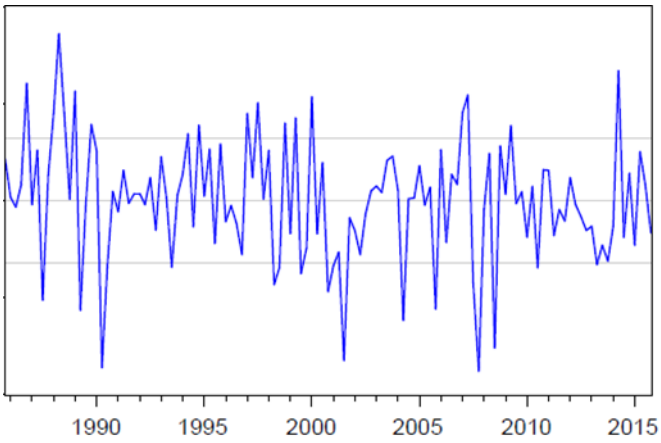
Table XV summarizes the results from regressing the first differences of LnVolumeTrans, LnGDP, and LnFTSE100, on 2-quarter lagged variables of each other and the non-lagged first differences of D(LIBOR3M). LnVolumeTrans is used as measure of M&A activity, through the amount invested within the period, LnGDP as proxy for economic output, LnFTSE100 as the stock-market performance indicator and LIBOR3M as representative of short-term interest rates . Robust standard errors are reported in parenthesis and the following code applies for p-values: *** p<0.01, ** p<0.05, * p<0.1.

	d(LnVolumTrans)	d(LnGDP)	d(LnFTSE100)
d(LnVolumTrans)(-1)	0,427**	0,001	-0,014
	(-0,085)	(-0,001)	(-0,015)
d(LnVolumTrans)(-2)	0,275**	-0,001	0,002
	(-0,084)	(-0,001)	(-0,014)
d(LnGDP)(-1)	0,134*	1,507***	0,616
	(-0,079)	(-0,076)	(-1,292)
d(LnGDP)(-2)	-0,134*	-0,511***	-0,652
	(-0,079)	(-0,075)	(-1,281)
d(LnFTSE100)(-1)	-0,043	0,003	-0,022
	(-0,535)	(-0,006)	(-0,094)
d(LnFTSE100)(-2)	0,163	0,010	-0,092
	(-0,535)	(-0,006)	(-0,094)
C	-4,453	0,046	0,592
	(-3,313)	(-0,034)	(-0,584)
d(LIBOR3M)	0,147*	0,002**	0,006
	(-0,068)	(-0,001)	(-0,012)
R-squared	0,657	0,499	0,045
Adj. R-squared	0,636	0,499	0,015
Sum sq. resids	25,068	0,003	0,779
S.E. equation	0,4710	0,005	0,083
F-statistic	30,959	272,23	0,755
Log likelihood	-76,454	476,600	133,534
Akaike AIC	1,396	-7,745	-2,075
Schwarz SC	1,581	-7,561	-1,890
Mean dependent	10,334	12,703	0,013
S.D. dependent	0,781	0,194	0,082

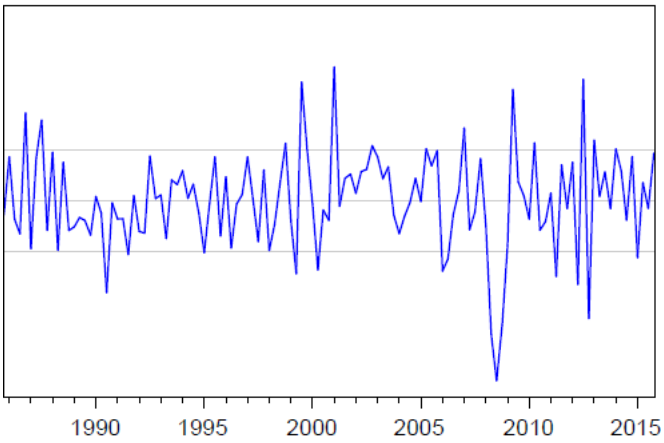
Appendix 16: Residuals for the variables in VAR Model 1

Figure I: Variables' Residuals in VAR Model 1

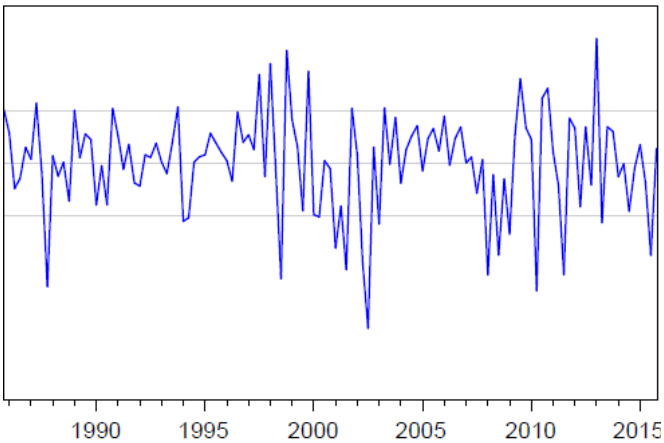
LnNumTrans



LnGDP



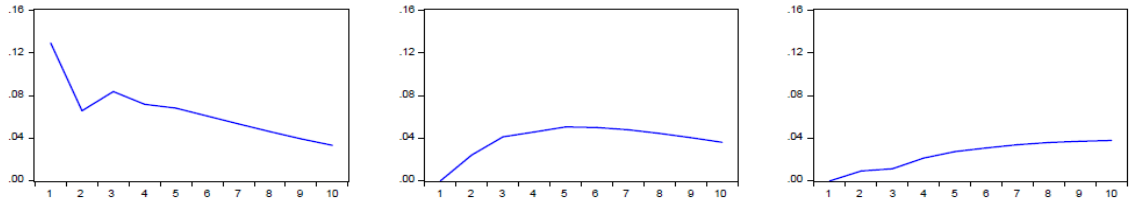
FTSE100



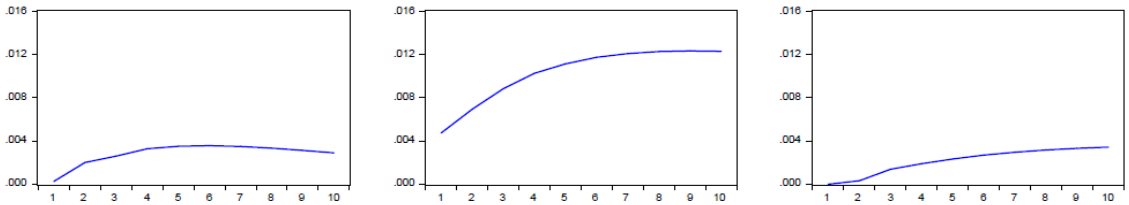
Appendix 17: Impulse Responses for VAR Model 1

Figure II: Cholesky's Responses for VAR Model 1

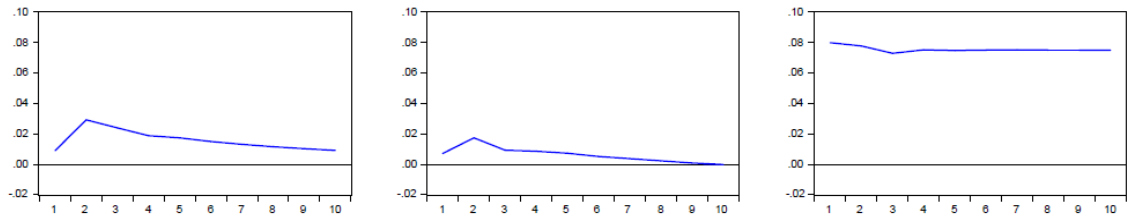
Response of *LnNumTrans* to: *LnNumTrans*, *LnGDP* and *LnFTSE100*



Response of *LnGDP* to: *LnNumTrans*, *LnGDP* and *LnFTSE100*



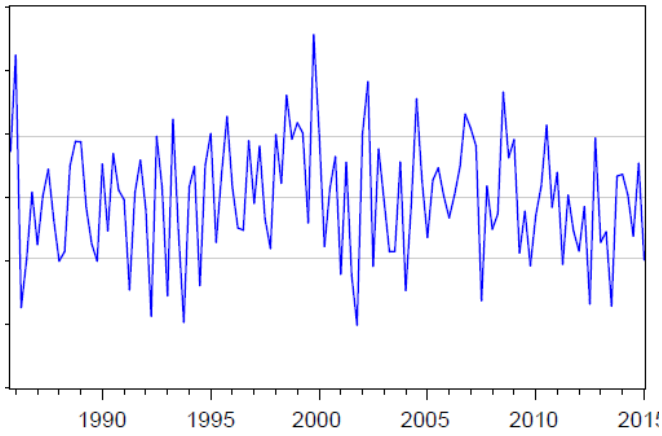
Response of *LnFTSE100* to: *LnNumTrans*, *LnGDP* and *LnFTSE100*



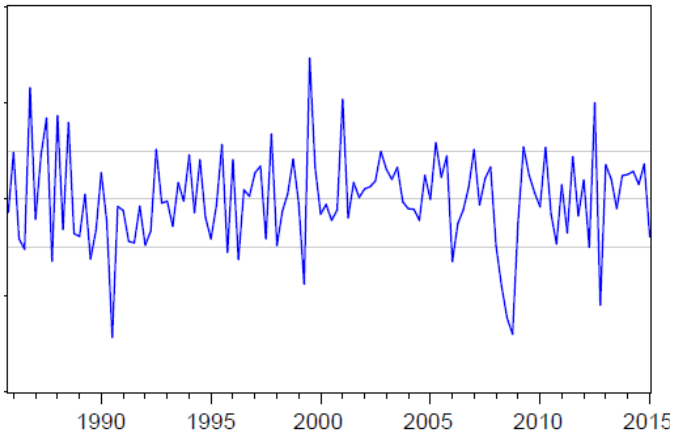
Appendix 18: Residuals for the variables in VAR Model 2

Figure III: Variables' Residuals in VAR Model 2

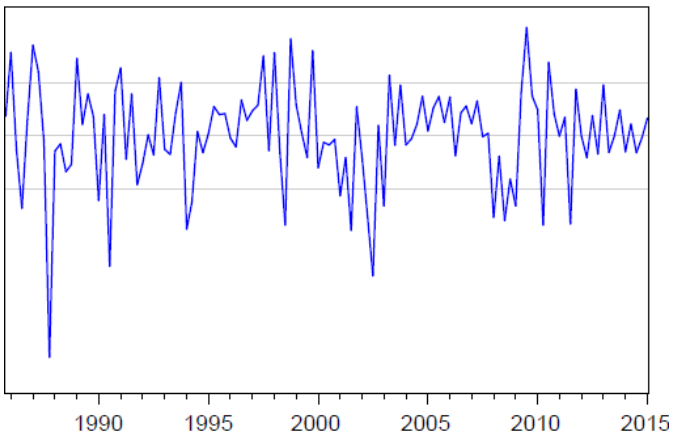
LnVolumTrans



LnGDP



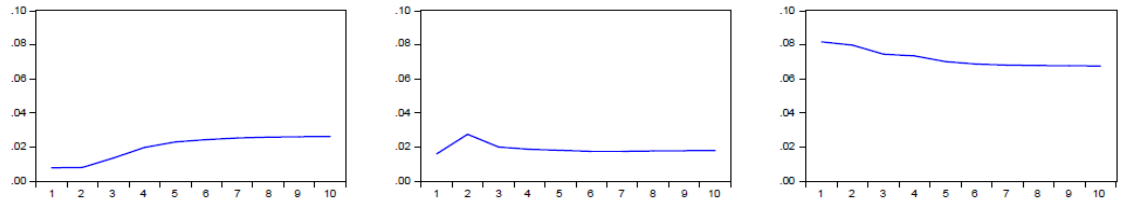
FTSE100



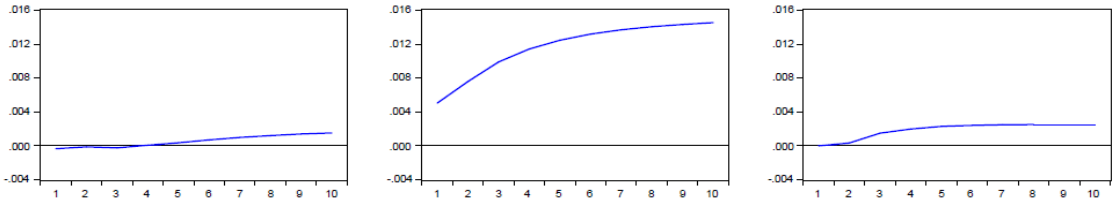
Appendix 19: Impulse Responses for VAR Model 2

Figure IV: Cholesky's Responses for VAR Model 2

Response of *LnVolumTrans* to: *LnVolumTrans*, *LnGDP* and *LnFTSE100*



Response of *LnGDP* to: *LnVolumTrans*, *LnGDP* and *LnFTSE100*



Response of *LnFTSE100* to: *LnVolumTrans*, *LnGDP* and *LnFTSE100*