

## Appendix

(a)

Region	Countries
<b>Africa</b>	Chad, Morocco, South Africa, Tunisia,
<b>America</b>	Chile, Uruguay, Mexico, El Salvado, Colombia, Canada, USA
<b>Asia</b>	Russia, Bangladesh, Nepal, Japan, China, Turkey, Singapore, Pakistan, Indonesia, Malaysia
<b>Europe</b>	Czech Republic, Croatia, Denmark, Finland, Belarus, Slovenia, Slovak Republic, Serbia, Romania, Portugal, Poland, Lithuania, Italy, Ireland, Iceland, Hungary, Greece, Estonia, UK, Switzerland, Sweden, Norway, Netherlands, Germany, Austria, Belgium
<b>Middle East</b>	Bahrain, Saudi Arabia, Oman, Israel, Jordan

(b)

### Unit Root Test

**Table 1.1 ADF**

	Africa		America		Asia		Europe		Middle East		Global	
Variable	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**
<b>CPI</b>	0.065	0.000	0.721	0.000	0.57	0.000	0.41	0.000	0.031	0.000	0.000	0.000
<b>BTC</b>	0.008	0.000	0.006	0.000	0.017	0.000	0.000	0.000	0.001	0.000	0.000	0.000
<b>ETH</b>	0.558	0.000	0.356	0.000	0.67	0.000	0.420	0.000	0.205	0.000	0.016	0.000
<b>LTC</b>	0.094	0.000	0.245	0.000	0.21	0.000	0.29	0.000	0.17	0.000	0.009	0.000
<b>USD</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>T</b>												
<b>XRP</b>	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
<b>XMR</b>	0.335	0.000	0.109	0.000	0.56	0.000	0.052	0.000	0.163	0.000	0.042	0.000
<b>Gold</b>	0.215	0.000	0.354	0.000	0.34	0.000	0.23	0.000	0.37	0.000	0.011	0.000

**Table 1.2 PP Test**

## Summary Statistics

### Africa

	Africa		America		Asia		Europe		Middle East		Global	
Variable	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**	(Level)**	(1 <sup>st</sup> Difference)**
CPI	0.088	0.000	0.71	0.000	0.66	0.000	0.71	0.000	0.061	0.000	0.001	0.000
BTC	0.077	0.000	0.031	0.000	0.014	0.000	0.000	0.000	0.053	0.000	0.004	0.000
ETH	0.491	0.000	0.526	0.000	0.54	0.000	0.620	0.000	0.505	0.000	0.061	0.000
LTC	0.394	0.000	0.398	0.000	0.009	0.000	0.37	0.000	0.39	0.000	0.016	0.000
USD T	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
XRP	0.009	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.004	0.000
XMR	0.24	0.000	0.204	0.000	0.172	0.000	0.078	0.000	0.229	0.000	0.070	0.000
Gold	0.495	0.000	0.531	0.000	0.55	0.000	0.63	0.000	0.50	0.000	0.020	0.000
	ECPI	BTC	ETH	LTC	USDT	XRP	XMR	GOLD				
Mean	103.9	12899.6	678.8	74.8	1.0	0.4	102.3	1495.0				
Std. Dev.	14.1	16586.8	1078.6	69.0	0.0	0.4	95.9	241.6				
Skewness	0.7	1.6	2.0	0.9	-2.4	1.4	0.9	0.6				
Kurtosis	3.9	4.3	5.9	2.9	10.6	4.8	2.9	1.9				
Jarque-Bera	32.84**	160.29**	327.27**	46.157**	1055.25**	143.24**	47.392**	31.83**				

(c)

### America

	ECPI	BTC	ETH	LTC	USDT	XRP	XMR	GOLD
Mean	122.5	12899.6	678.8	74.8	1.0	0.4	102.3	1495.0
Std. Dev.	32.8	16575.5	1077.9	68.9	0.0	0.4	95.9	241.4
Skewness	1.9	1.6	2.0	0.9	-2.4	1.4	0.9	0.6
Kurtosis	6.2	4.3	5.9	2.9	10.6	4.8	2.9	1.9
Jarque-Bera	569.81**	280.51**	572.73**	80.775**	1846.7**	250.67**	82.936**	55.710**

## Asia

	<b>ECPI</b>	<b>BTC</b>	<b>ETH</b>	<b>LTC</b>	<b>XRP</b>	<b>XMR</b>	<b>USDT</b>	<b>GOLD</b>
<b>Mean</b>	163.3	12899.6	678.8	74.8	0.4	102.3	1.0	1495.0
<b>Std. Dev.</b>	99.5	16571.0	1077.6	68.9	0.4	95.9	0.0	241.4
<b>Skewness</b>	2.4	1.6	2.0	0.9	1.4	0.9	-2.4	0.6
<b>Kurtosis</b>	9.1	4.3	5.9	2.9	4.8	2.9	10.6	1.9
<b>Jarque-Bera</b>	1952.33* *	400.73* *	818.19* *	115.39* *	358.10* *	118.480* *	2638.14* *	79.586* *

## Europe

	<b>ECPI</b>	<b>BTC</b>	<b>ETH</b>	<b>LTC</b>	<b>USDT</b>	<b>XRP</b>	<b>XMR</b>	<b>GOLD</b>
<b>Mean</b>	126.9	12899.6	678.8	74.8	1.0	0.4	102.3	1495.0
<b>Std. Dev.</b>	51.5	16564.6	1077.2	68.9	0.0	0.4	95.8	241.3
<b>Skewness</b>	2.6	1.6	2.0	0.9	-2.4	1.4	0.9	0.6
<b>Kurtosis</b>	9.9	4.3	5.9	2.9	10.6	4.8	2.9	1.9
<b>Jarque-Bera</b>	6332.59* *	1041.91* *	2127.31* *	300.02* *	6859.17* *	931.07* *	308.049* *	206.92* *

## Middle East

	<b>ECPI</b>	<b>BTC</b>	<b>ETH</b>	<b>LTC</b>	<b>USDT</b>	<b>XRP</b>	<b>XMR</b>	<b>GOLD</b>
<b>Mean</b>	100.2	12899.6	678.8	74.8	1.0	0.4	102.3	1495.0
<b>Std. Dev.</b>	3.4	16581.6	1078.3	68.9	0.0	0.4	95.9	241.5
<b>Skewness</b>	0.2	1.6	2.0	0.9	-2.4	1.4	0.9	0.6
<b>Kurtosis</b>	2.6	4.3	5.9	2.9	10.6	4.8	2.9	1.9
<b>Jarque-Bera</b>	4.208**	200.36**	409.09**	57.697**	1319.07**	179.05**	59.240**	39.79**

## Global

	<b>ECPI</b>	<b>BTC</b>	<b>ETH</b>	<b>LTC</b>	<b>USDT</b>	<b>XRP</b>	<b>XMR</b>	<b>GOLD</b>
<b>Mean</b>	343.6	12899.6	678.8	74.8	1.0	0.4	102.3	1495.0
<b>Std. Dev.</b>	22.0	16666.4	1083.8	69.3	0.0	0.4	96.4	242.7
<b>Skewness</b>	0.4	1.6	2.0	0.9	-2.4	1.4	0.9	0.6
<b>Kurtosis</b>	2.0	4.3	5.9	2.9	10.6	4.8	2.9	1.9
<b>Jarque-Bera</b>	4.804**	40.07**	81.819**	11.53**	263.81**	35.81**	11.84**	7.958**

(d)

**ARDL Bound Test**

<b>Bound Test Results</b>			
	<b>F- statistic</b>	<b>I(0) Upper bound (5%)</b>	<b>I(1) Upper Bound (5%)</b>
Africa	5.62	2.6	4.3
America	15.3	5.8	7.1
Asia	10.4	4.4	6.9
Europe	21.7	4.3	6.5
Middle East	4.38	1.74	2.65
Global	4.9	2.8	3.54

**Long Run Estimates of ARLD**

Africa				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.**</b>
<b>BTC</b>	3.69E-05	1.22E-05	3.01888	0.0031
<b>ETH</b>	0.000939	0.00025	3.77984	0.0003
<b>LTC</b>	0.007591	0.00208	3.65827	0.0004
<b>USDT</b>	-23.6504	4.06786	-5.814	0
<b>XMR</b>	-0.02185	0.0034	-6.4342	0
<b>XRP</b>	2.497773	1.3035	1.91621	0.0579
<b>GOLD</b>	0.004528	0.00037	12.3876	0
America				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.**</b>
<b>BTC</b>	-0.00032	7.50E-05	-4.2534	0
<b>ETH</b>	0.002212	0.00159	1.39469	0.1646
<b>LTC</b>	-0.07517	0.01662	-4.5239	0
<b>USDT</b>	3.00635	23.4867	0.128	0.8983
<b>XMR</b>	0.024466	0.01579	1.54942	0.1228
<b>XRP</b>	10.98949	3.76706	2.91726	0.0039
<b>GOLD</b>	-0.00504	0.00258	-1.9497	0.0526
Asia				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.**</b>

<b>BTC</b>	0.000496	0.00016	3.02559	0.0027
<b>ETH</b>	0.011621	0.00361	3.21983	0.0014
<b>LTC</b>	0.031114	0.03401	0.91476	0.3611
<b>XMR</b>	-0.16342	0.04801	-3.4041	0.0008
<b>XRP</b>	30.44293	10.8847	2.79685	0.0055
<b>USDT</b>	-233.624	81.9775	-2.8499	0.0047
<b>GOLD</b>	0.0469	0.01228	3.82061	0.0002
Europe				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.**</b>
<b>BTC</b>	0.000294	4.37E-05	6.72553	0
<b>ETH</b>	-0.00108	0.0009	-1.2007	0.2302
<b>LTC</b>	-0.13901	0.01163	-11.955	0
<b>USDT</b>	4.6132	14.898	0.30965	0.7569
<b>XMR</b>	0.096246	0.0136	7.07495	0
<b>XRP</b>	0.01523	3.1658	0.00481	0.9962
<b>GOLD</b>	0.000822	0.00149	0.55268	0.5806
Middle East				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.**</b>
<b>BTC</b>	2.26E-05	3.92E-05	0.57754	0.5645
<b>ETH</b>	-0.00134	0.00083	-1.6254	0.1063
<b>LTC</b>	0.001392	0.00833	0.16715	0.8675
<b>USDT</b>	57.29607	17.2956	3.31277	0.0012
<b>XMR</b>	0.04092	0.01079	3.79106	0.0002
<b>XRP</b>	-13.466	4.21721	-3.1931	0.0017
<b>GOLD</b>	-0.00496	0.00211	-2.3518	0.02
Global				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.**</b>
<b>BTC</b>	2.04E-07	8.02E-08	2.53704	0.0138
<b>ETH</b>	-1.45E-06	1.37E-06	-1.0531	0.2966
<b>LTC</b>	2.99E-05	1.63E-05	1.83997	0.0708
<b>USDT</b>	-0.00011	0.02615	-0.0043	0.9966
<b>XMR</b>	4.62E-05	1.36E-05	3.3881	0.0013
<b>XRP</b>	0.00653	0.00241	-2.7095	0.0088
<b>GOLD</b>	1.27E-05	4.64E-06	2.73229	0.0083

**Short Run estimate of ARDL**

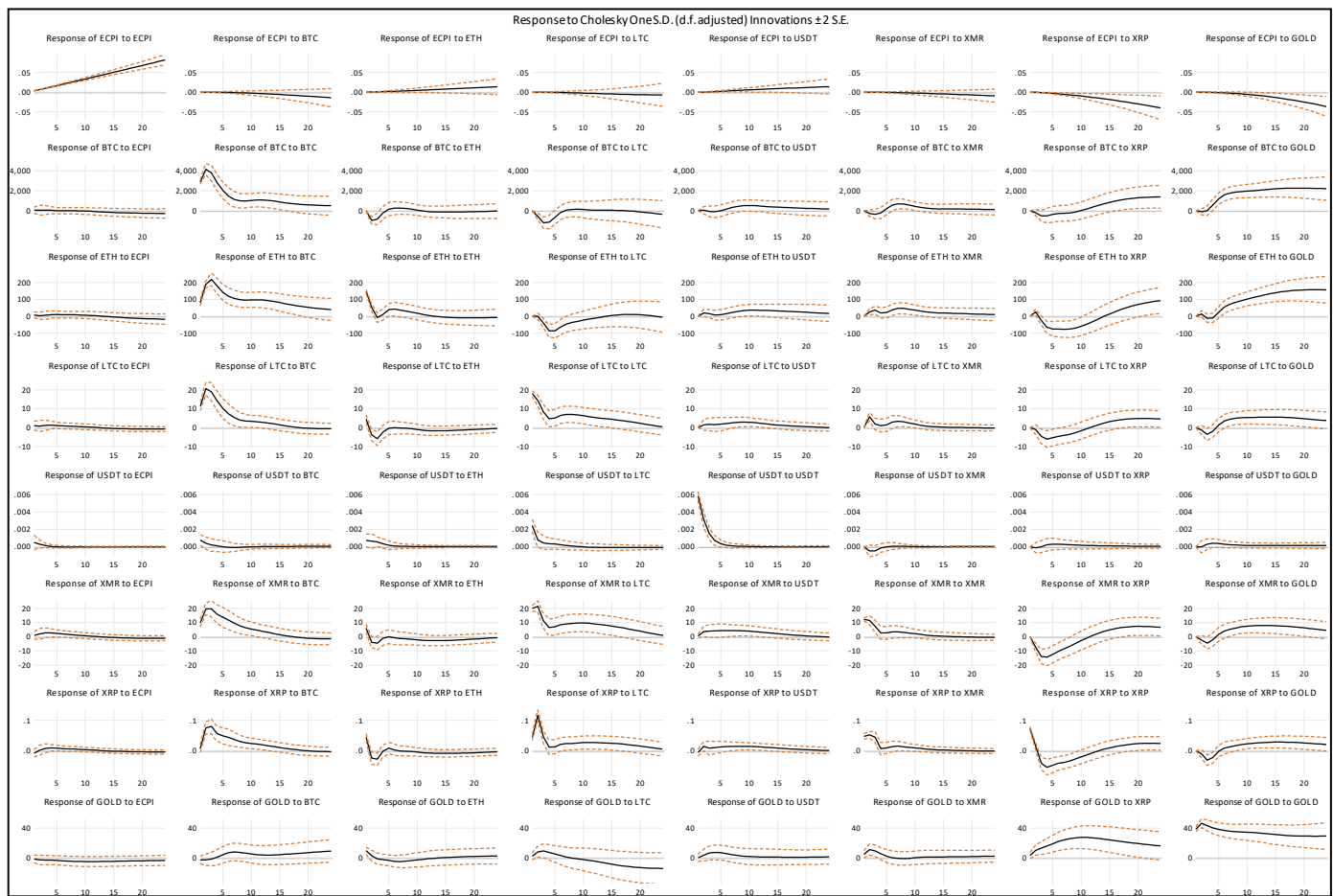
Africa				
	Short Run Equation			
	Coefficient	Std. Error	t-Statistic	Prob.**
BTC	-1.32E-09	1.66E-09	-0.7982	0.4264
ETH	-1.30E-07	6.44E-08	-2.0133	0.0465
LTC	-1.55E-06	1.58E-06	-0.9833	0.3276
USDT	0.001304	0.00162	0.80363	0.4233
XMR	2.98E-06	2.87E-06	1.03811	0.3014
XRP	-0.00026	0.00025	-1.0285	0.3059
GOLD	-4.51E-07	4.23E-07	-1.0658	0.2888
America				
	Short Run Equation			
	Coefficient	Std. Error	t-statistic	Prob.**
BTC	-8.53E-09	3.38E-09	-2.5201	0.0125
ETH	-4.17E-09	1.27E-08	-0.3279	0.7433
LTC	-2.60E-07	1.19E-07	-2.189	0.0297
USDT	0.000173	0.00022	0.79691	0.4264
XMR	-3.74E-07	1.32E-07	-2.8226	0.0052
XRP	0.000209	5.89E-05	3.5537	0.0005
GOLD	-1.25E-07	7.99E-08	-1.5693	0.1181
Asia				
	Short Run Equation			
	Coefficient	Std. Error	t-statistic	Prob.**
BTC	7.10E-09	4.95E-09	1.43508	0.1523
ETH	-1.39E-08	1.27E-07	-0.1095	0.9129
LTC	9.43E-07	5.31E-07	1.77804	0.0764
XMR	-2.01E-06	1.13E-06	-1.7797	0.0762
XRP	0.000157	0.00016	1.00217	0.3171
USDT	-0.00094	0.0014	-0.6702	0.5032
GOLD	4.53E-07	3.12E-07	1.45103	0.1478
Europe				
	Short Run Equation			

	Coefficient	Std. Error	t-statistic	Prob.**
BTC	2.10E-09	1.11E-09	1.89408	0.0586
ETH	-5.76E-08	9.29E-09	-6.1959	0
LTC	-8.26E-07	2.13E-07	-3.8736	0.0001
USDT	0.000178	0.00012	1.45387	0.1464
XMR	5.19E-07	2.00E-07	2.58972	0.0098
XRP	1.58E-05	1.65E-05	0.96082	0.3369
GOLD	1.51E-07	3.96E-08	3.82555	0.0001
Middle East				
	<b>Short Run Equation</b>			
	Coefficient	Std. Error	t-statistic	Prob.**
BTC	-1.99E-09	1.38E-09	-1.4441	0.1509
ETH	2.40E-08	3.51E-08	0.68461	0.4947
LTC	1.01E-08	2.22E-07	0.04561	0.9637
USDT	-0.00048	0.0007	-0.6905	0.491
XMR	-6.31E-07	9.64E-07	-0.655	0.5135
XRP	0.000182	0.00023	0.79403	0.4285
GOLD	-1.41E-07	1.85E-07	-0.7622	0.4472
Global				
	<b>Short Run Equation</b>			
	Coefficient	Std. Error	t-statistic	Prob.**
BTC	-8.53E-09	3.38E-09	-2.5201	0.0125
ETH	-4.17E-09	1.27E-08	-0.3279	0.7433
LTC	-2.60E-07	1.19E-07	-2.189	0.0297
USDT	0.000173	0.00022	0.79691	0.4264
XMR	-3.74E-07	1.32E-07	-2.8226	0.0052
XRP	0.000209	5.89E-05	3.5537	0.0005
GOLD	-1.25E-07	7.99E-08	-1.5693	0.1181

(e)

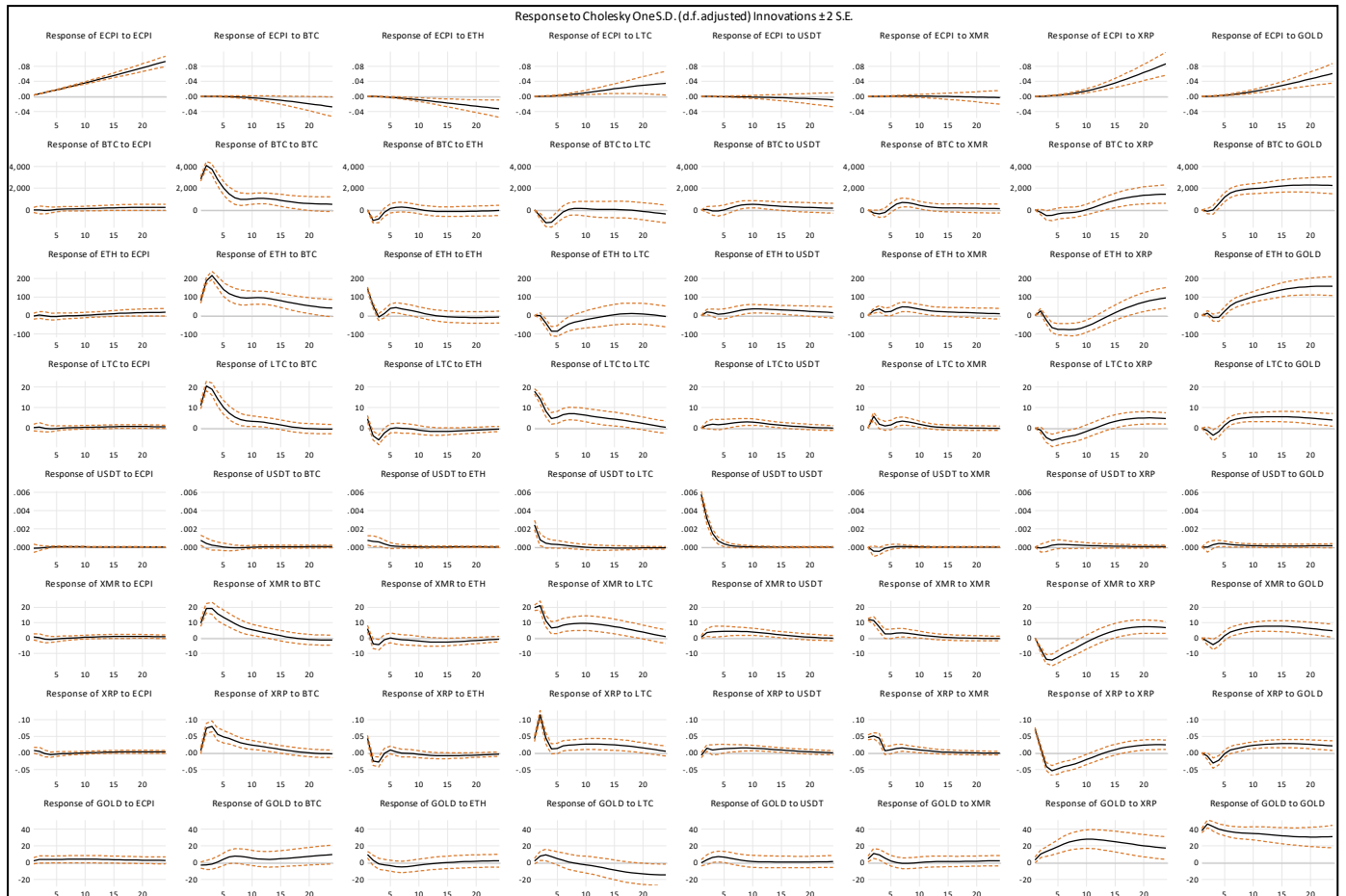
**Vector Autoregression**

**Africa**



America

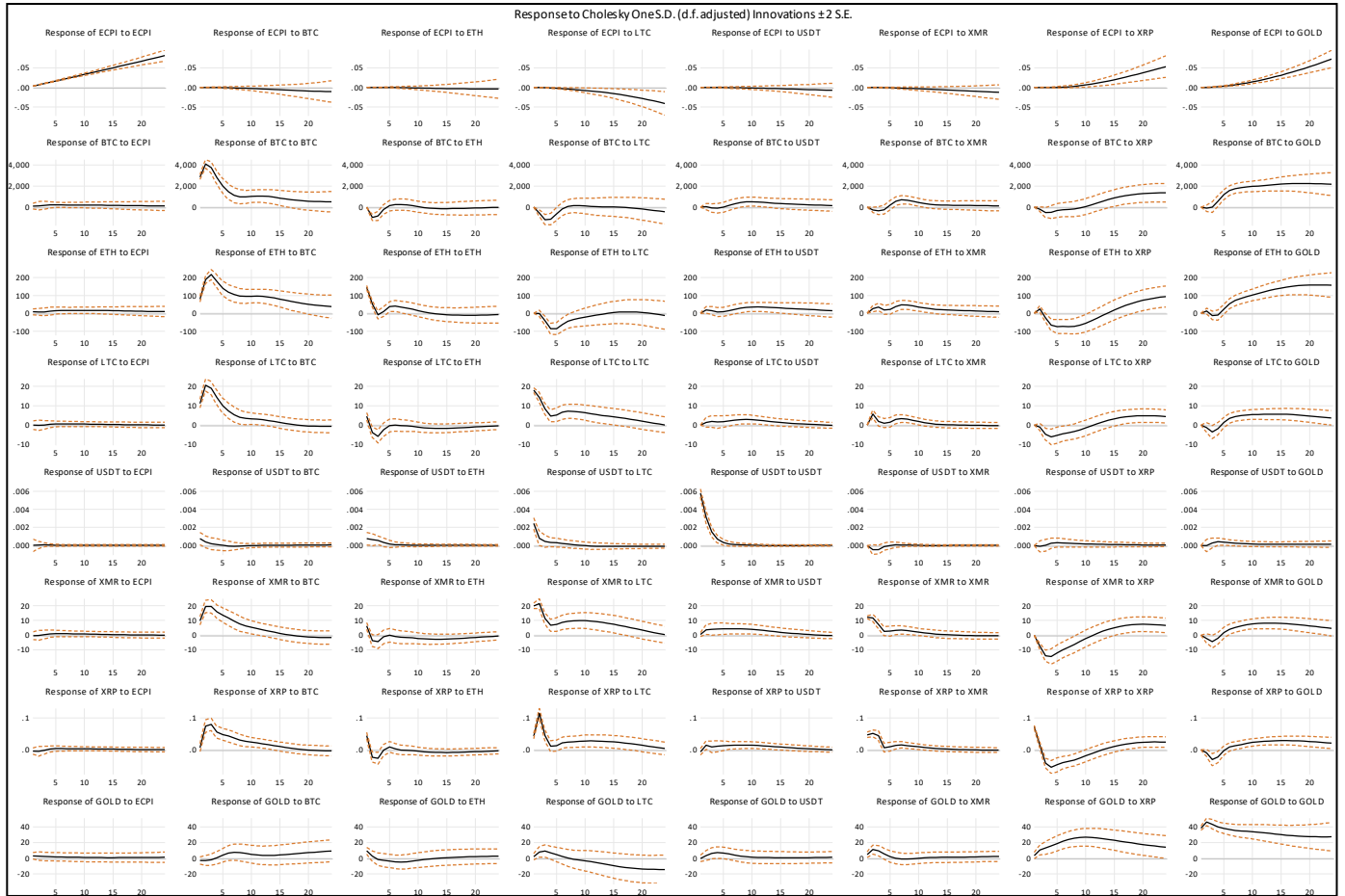




Asia



Middle East



Global

