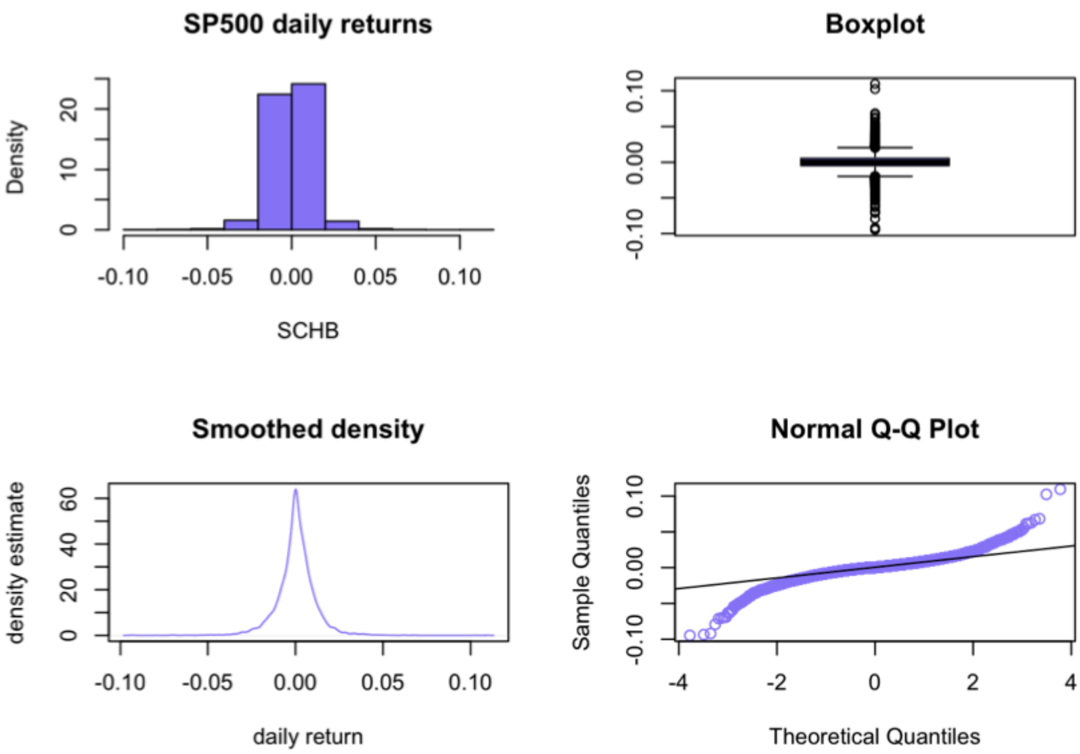
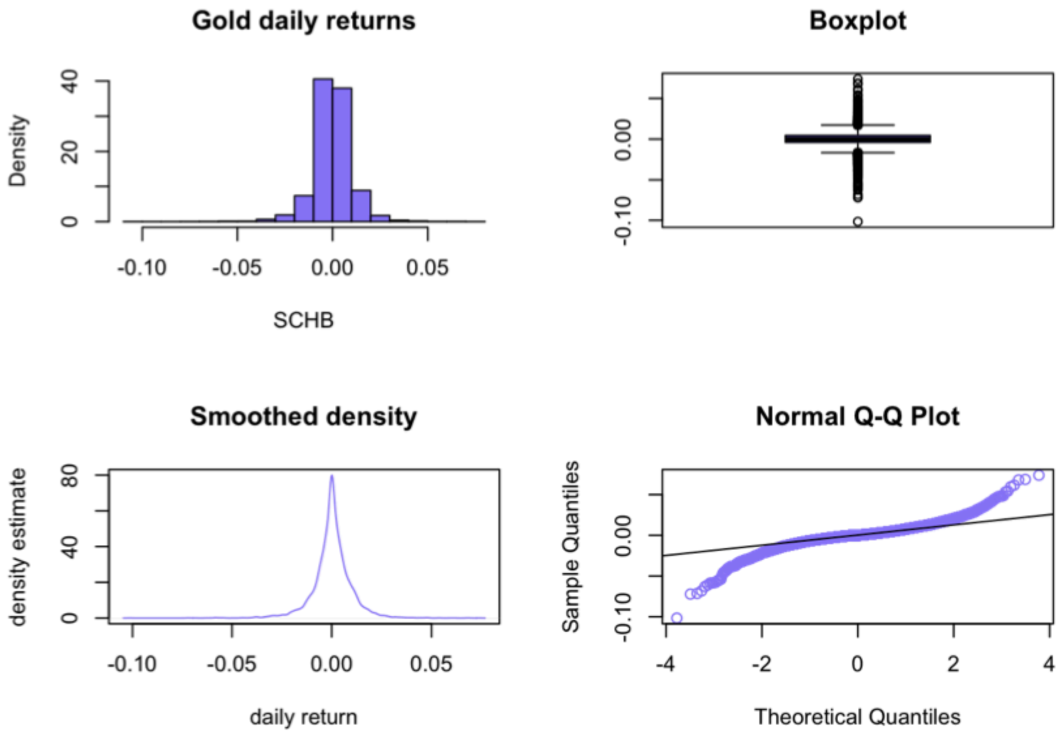
Appendix A

	SP500	Gold	Crudoil	CHFUSD
Observations	6261.0000	6261.0000	6261.0000	6261.0000
NAs	0.0000	0.0000	0.0000	0.0000
Minimum	-0.0947	-0.1016	-0.4020	-0.0437
Quartile 1	-0.0045	-0.0039	-0.0112	-0.0041
Median	0.0002	0.0000	0.0000	0.0000
Arithmetic Mean	0.0003	0.0002	0.0002	-0.0001
Geometric Mean	0.0002	0.0001	-0.0001	-0.0001
Quartile 3	0.0055	0.0046	0.0121	0.0040
Maximum	0.1096	0.0738	0.2698	0.0908
SE Mean	0.0001	0.0001	0.0003	0.0001
LCL Mean (0.95)	0.0000	-0.0001	-0.0004	-0.0003
UCL Mean (0.95)	0.0005	0.0004	0.0009	0.0001
Variance	0.0001	0.0001	0.0007	0.0001
Stdev	0.0114	0.0100	0.0255	0.0072
Skewness	-0.2376	-0.4416	-1.0969	0.1914
Kurtosis	9.0240	8.3075	26.0000	6.0154

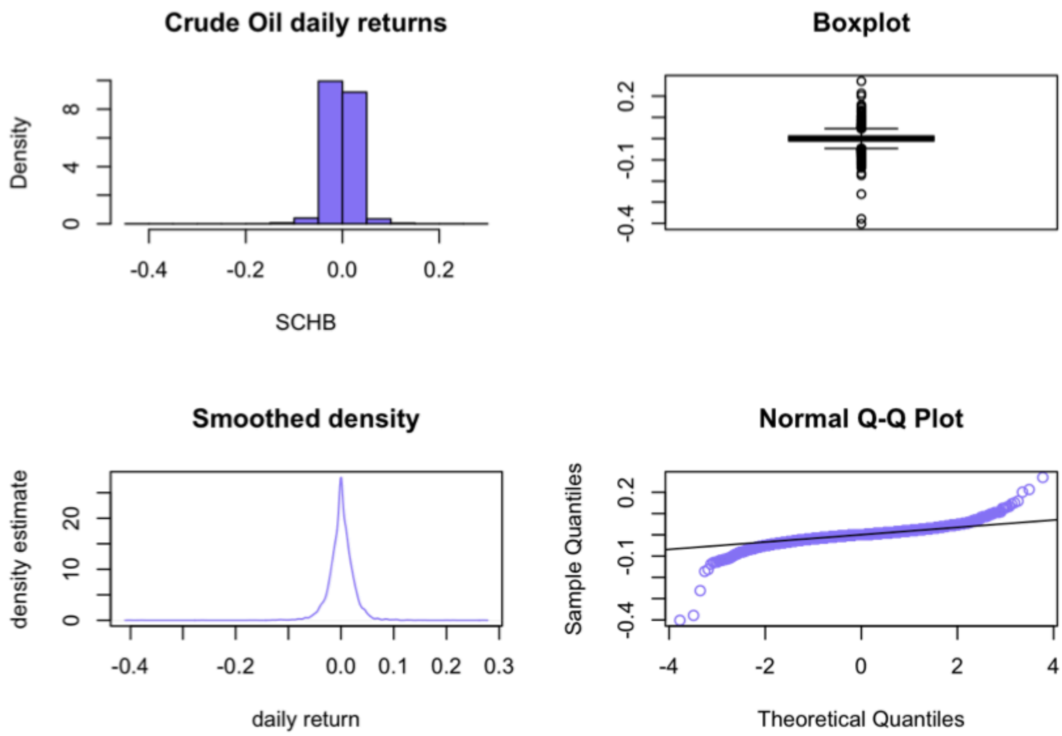
Appendix A 1 Descriptive Statistics of daily returns



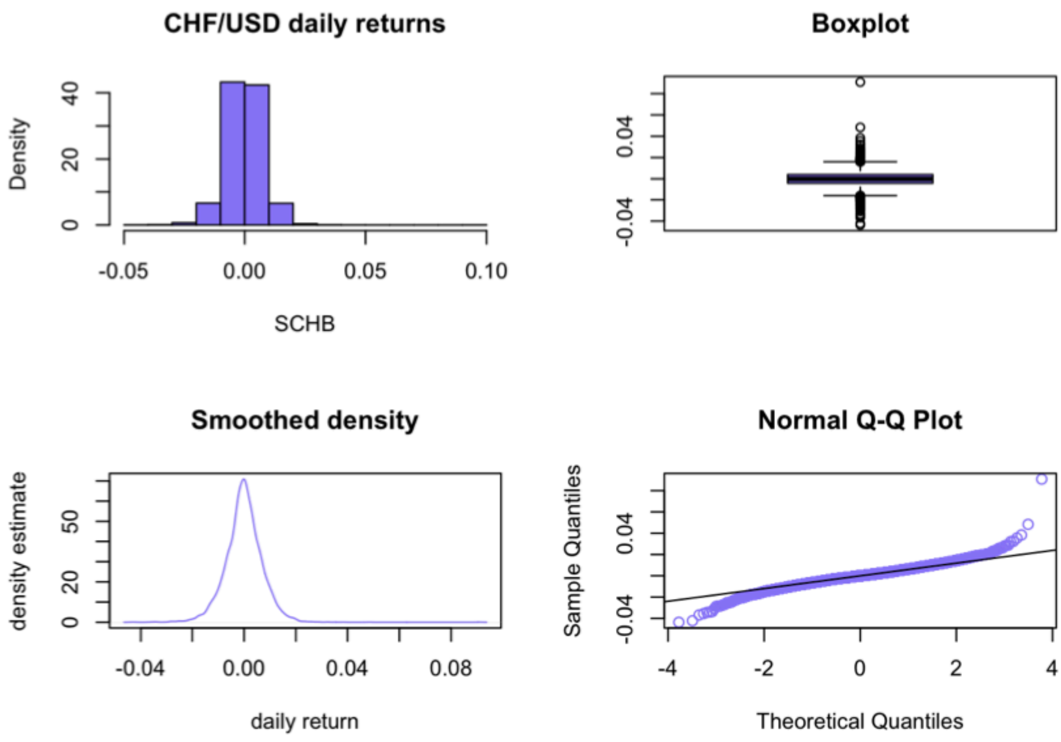
Appendix A 2 S&P 500 return distribution



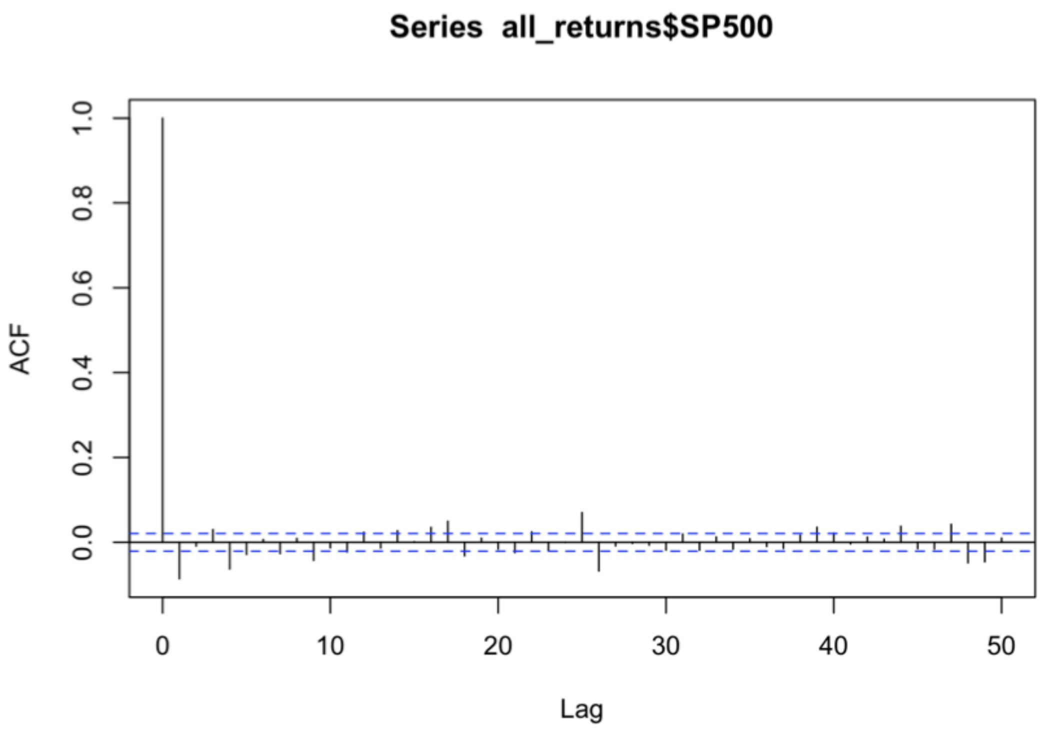
Appendix A 3 Gold return distribution



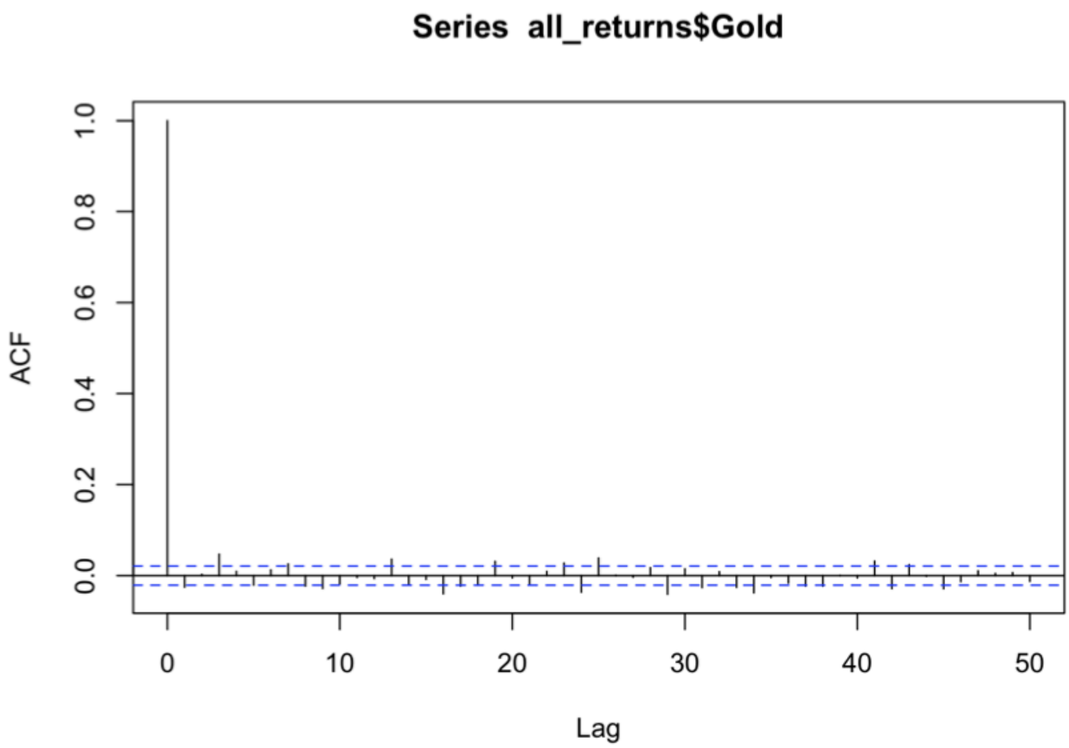
Appendix A 4 crude oil return distribution



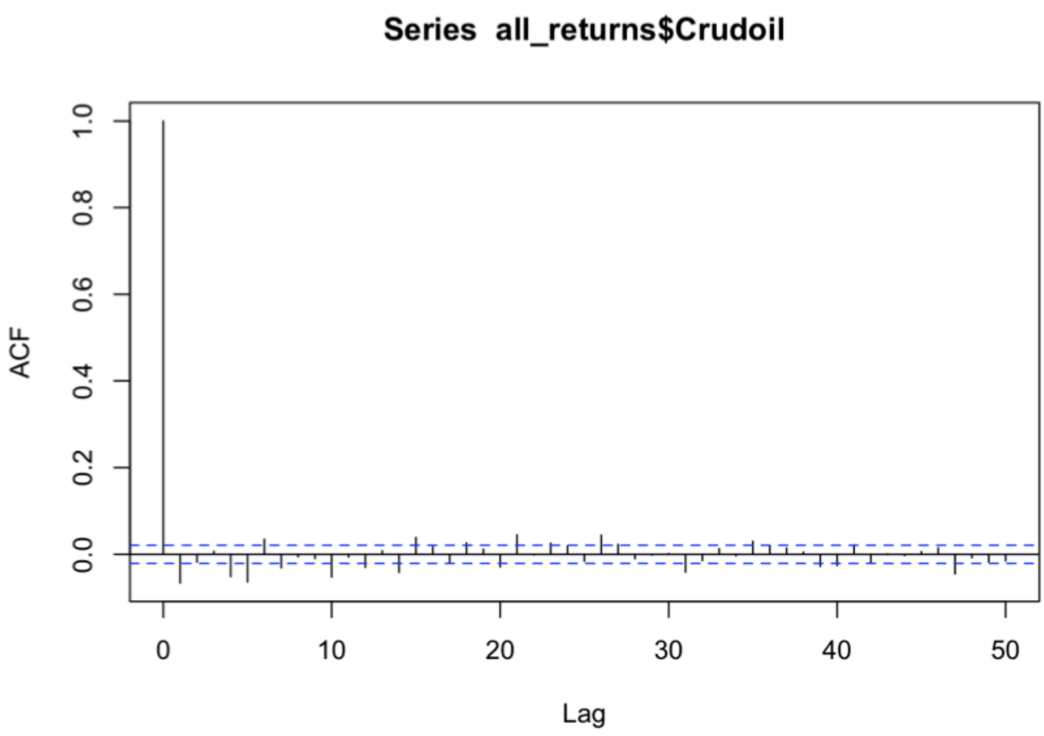
Appendix A 5 CHF/USD return distribution



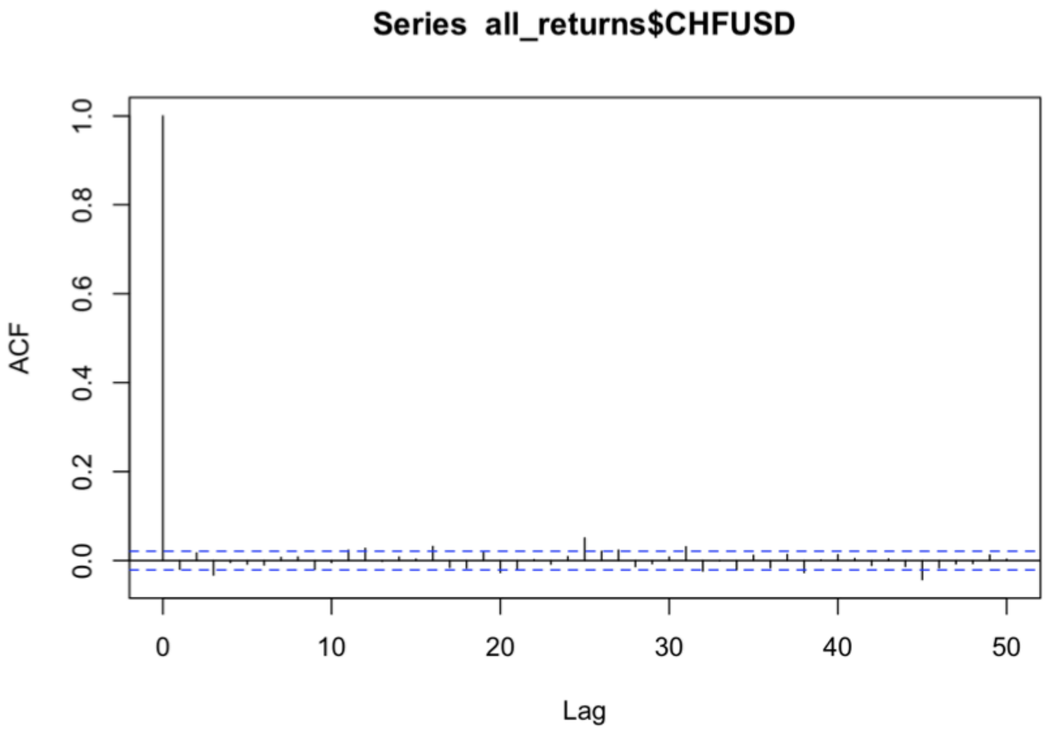
Appendix A 6 S&P 500 autocorrelation



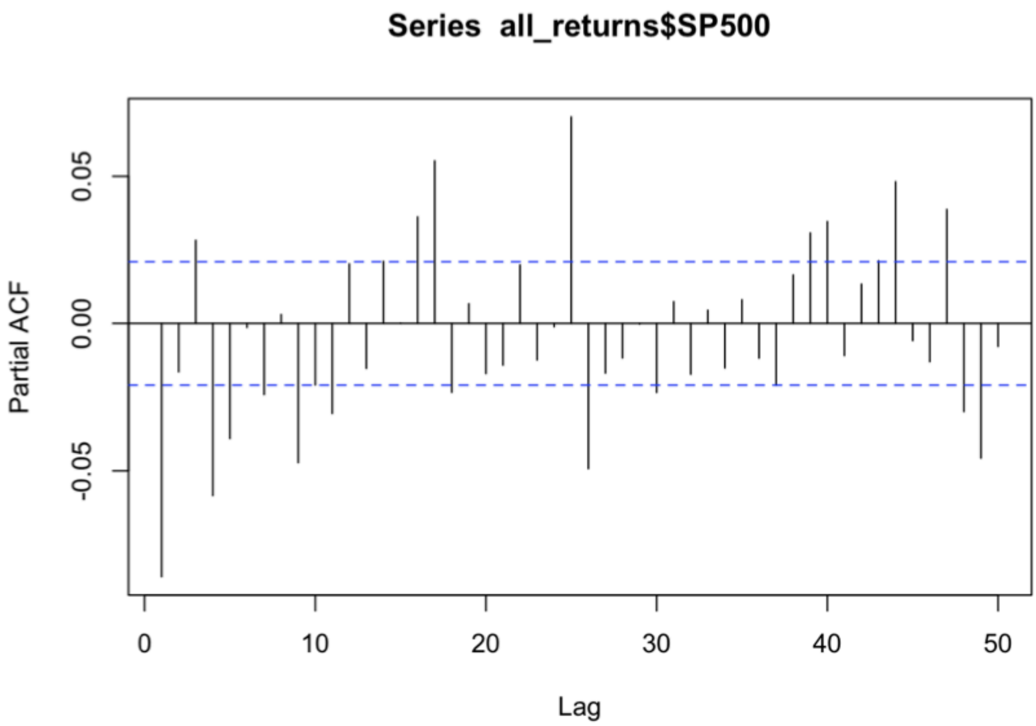
Appendix A 7 Gold autocorrelation



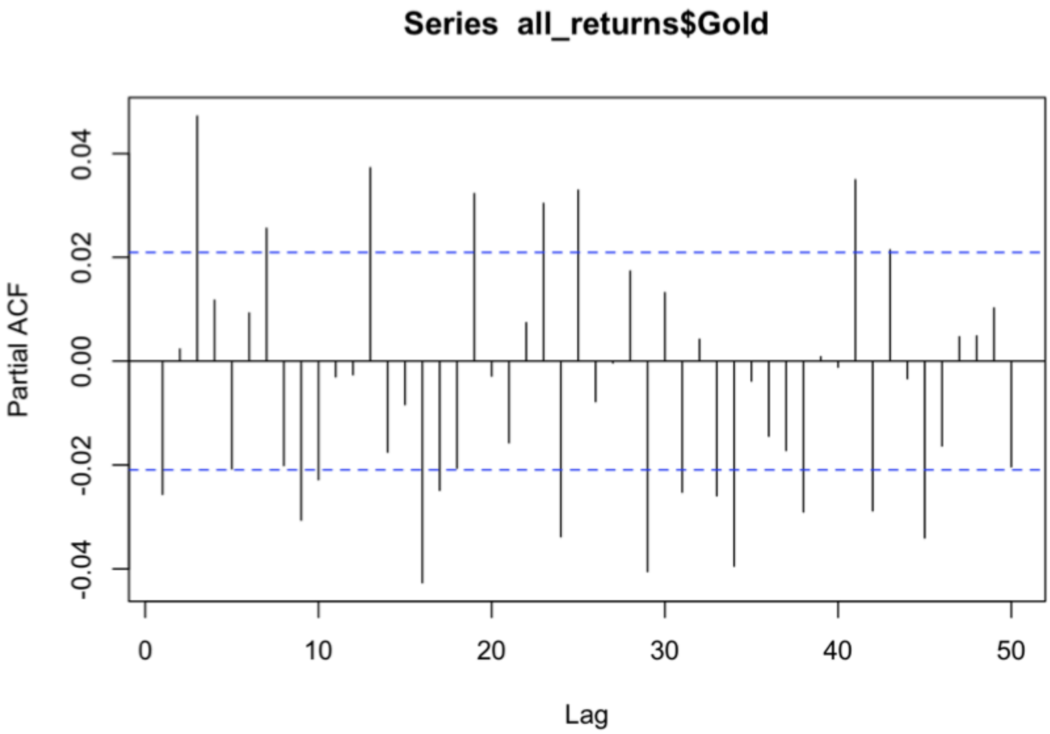
Appendix A 8 crude oil autocorrelation



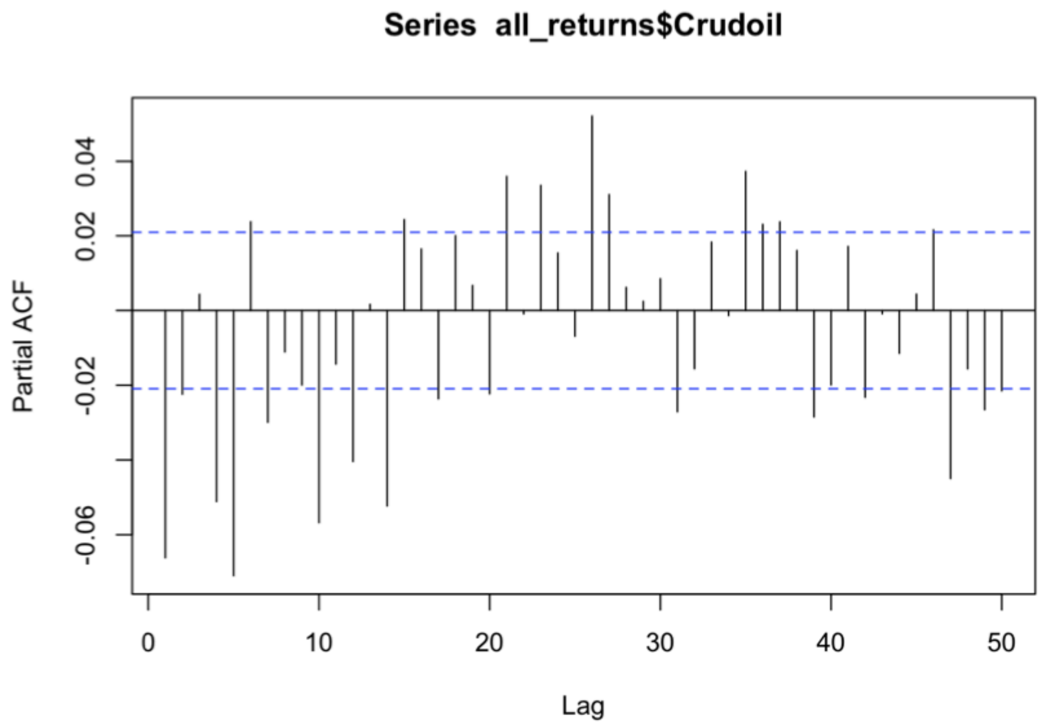
Appendix A 9 CHF/USD autocorrelation



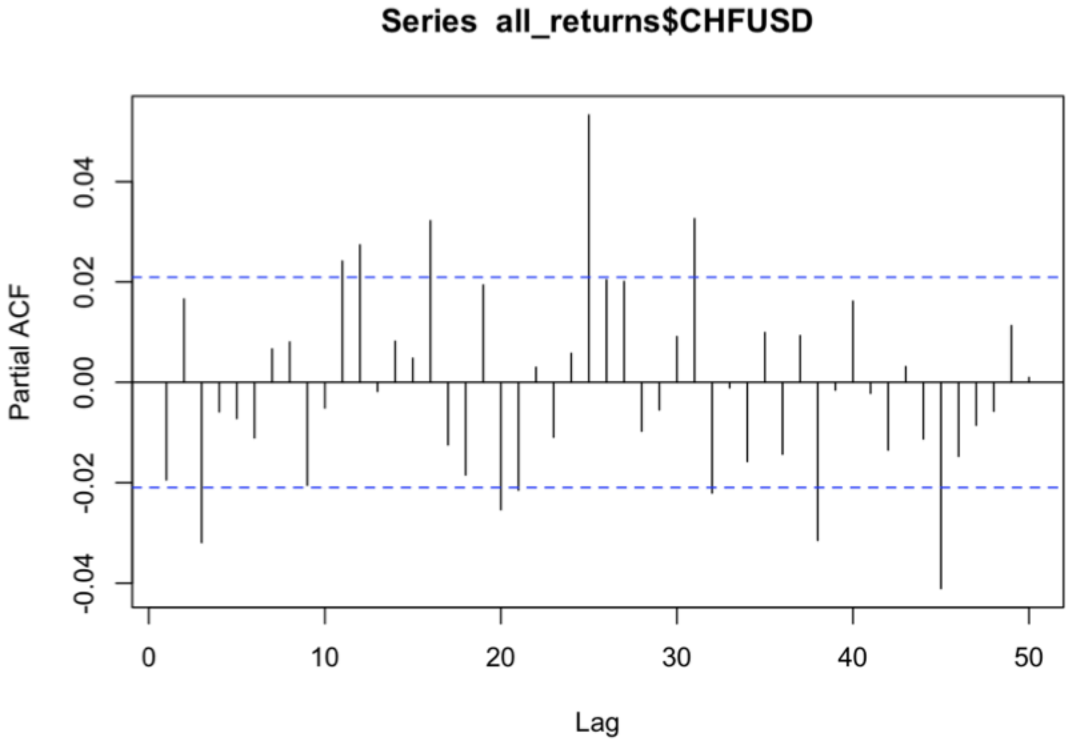
Appendix A 10 S&P 500 partial autocorrelation



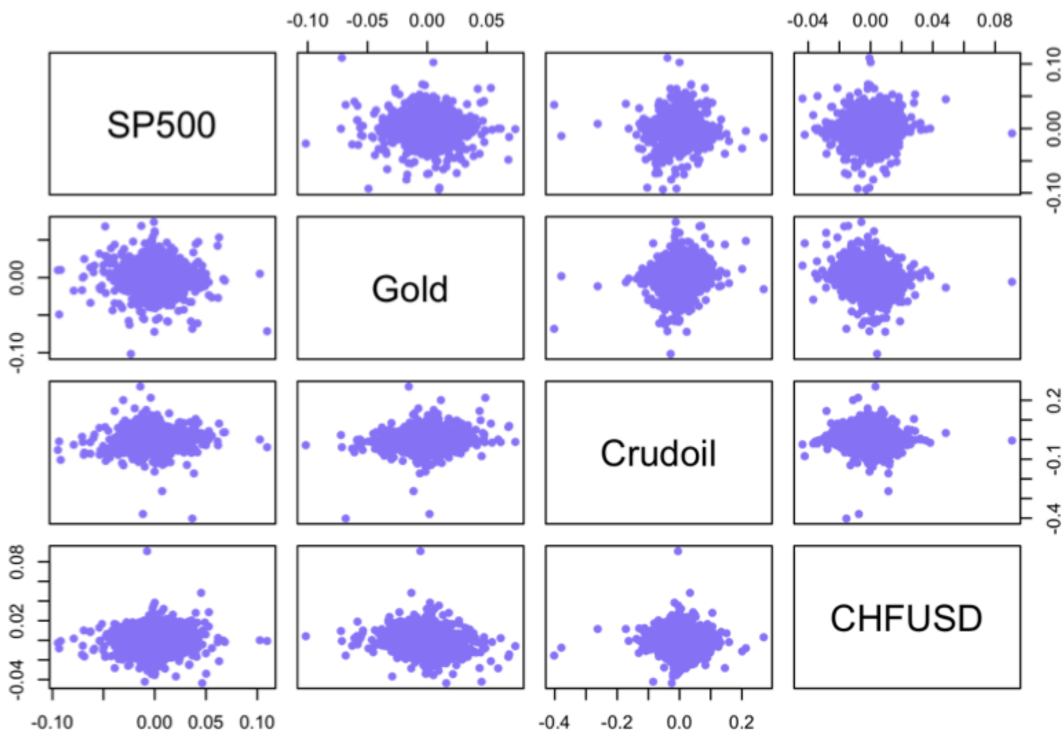
Appendix A 11 gold partial autocorrelation



Appendix A 12 crude oil partial autocorrelation



Appendix A 13 CHF/USD partial autocorrelation



Appendix A 14 daily returns correlation plot

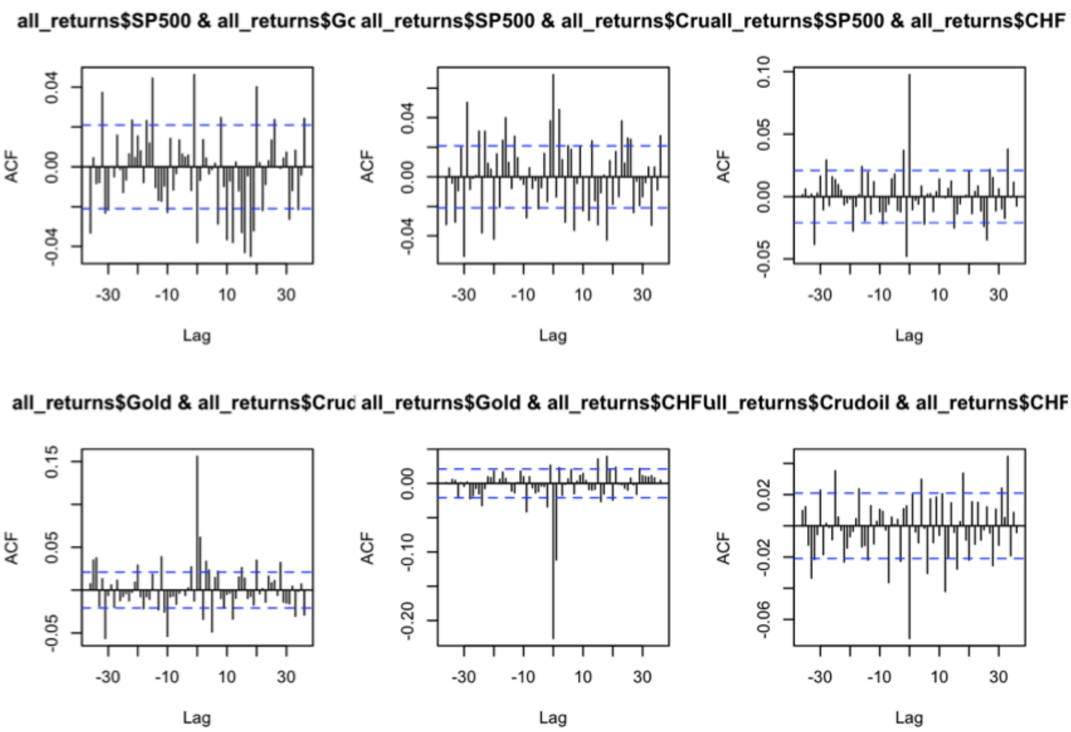
Coefficients and bootstrapped confidence intervals

	SP500	Gold	Crudl	CHFUS
SP500	1.00			
Gold	-0.04	1.00		
Crudoil	0.07	0.16	1.00	
CHFUSD	0.10	-0.23	-0.07	1.00

scale correlations and bootstrapped confidence intervals

	lower.emp	lower.norm	estimate	upper.norm	upper.emp	p
SP500-Gold	-0.08	-0.09	-0.04	0.01	0.01	0.08
SP500-Crudl	0.03	0.03	0.07	0.11	0.11	0.00
SP500-CHFUS	0.07	0.07	0.10	0.13	0.12	0.00
Gold-Crudl	0.11	0.11	0.16	0.21	0.21	0.00
Gold-CHFUS	-0.26	-0.26	-0.23	-0.20	-0.20	0.00
Crudl-CHFUS	-0.11	-0.10	-0.07	-0.04	-0.04	0.00

Appendix A 15 daily return correlations and confidence intervals



Appendix A 16 daily return cross-correlations

	Estimate	Std. Error	t value	Pr(>|t|)	
mu	5.189e-04	9.999e-05	5.189	2.11e-07	***
omega	9.556e-07	1.671e-07	5.718	1.08e-08	***
alpha1	7.012e-02	5.904e-03	11.877	< 2e-16	***
beta1	9.219e-01	6.377e-03	144.567	< 2e-16	***

Appendix A 17 S&P 500 GARCH output

	Estimate	Std. Error	t value	Pr(>|t|)	
mu	-3.368e-05	8.853e-05	-0.380	0.704	
omega	2.510e-07	5.977e-08	4.199	2.69e-05	***
alpha1	5.416e-02	4.684e-03	11.563	< 2e-16	***
beta1	9.472e-01	4.253e-03	222.699	< 2e-16	***

Appendix A 18 gold GARCH output

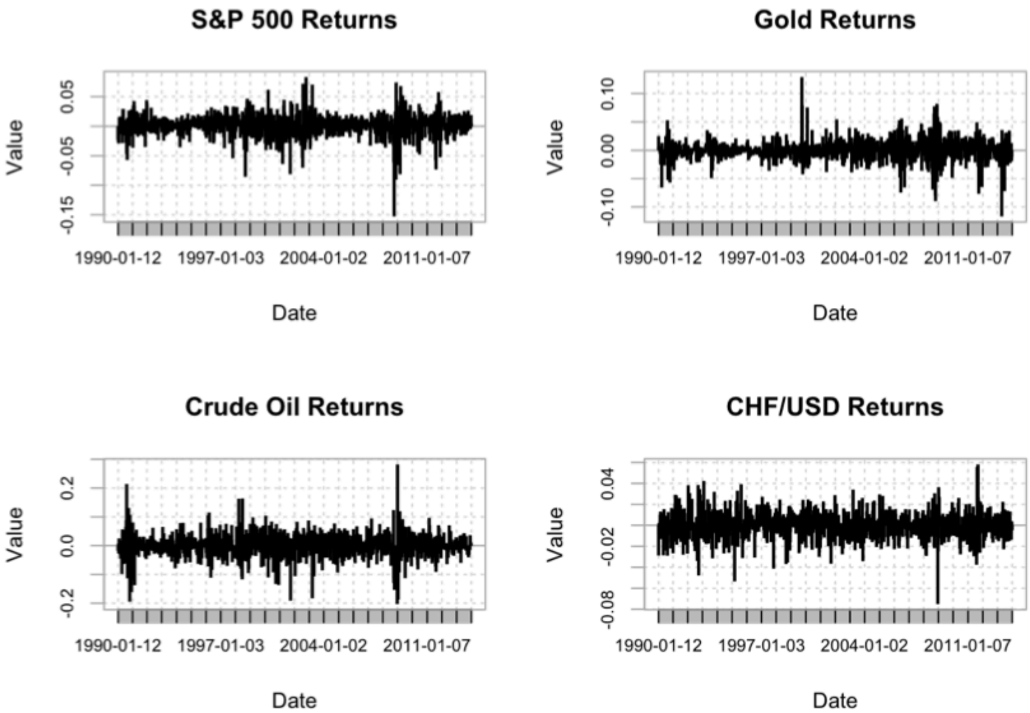
	Estimate	Std. Error	t value	Pr(>|t|)	
mu	1.977e-04	2.358e-04	0.838	0.402	
omega	3.196e-06	7.183e-07	4.449	8.64e-06	***
alpha1	6.155e-02	4.903e-03	12.554	< 2e-16	***
beta1	9.359e-01	4.611e-03	202.962	< 2e-16	***

Appendix A 19 crude oil GARCH output

	Estimate	Std. Error	t value	Pr(>|t|)	
mu	-1.008e-04	8.256e-05	-1.221	0.222	
omega	4.043e-07	9.758e-08	4.143	3.42e-05	***
alpha1	3.680e-02	3.458e-03	10.644	< 2e-16	***
beta1	9.557e-01	4.170e-03	229.146	< 2e-16	***

Appendix A 20 CHF/USD GARCH output

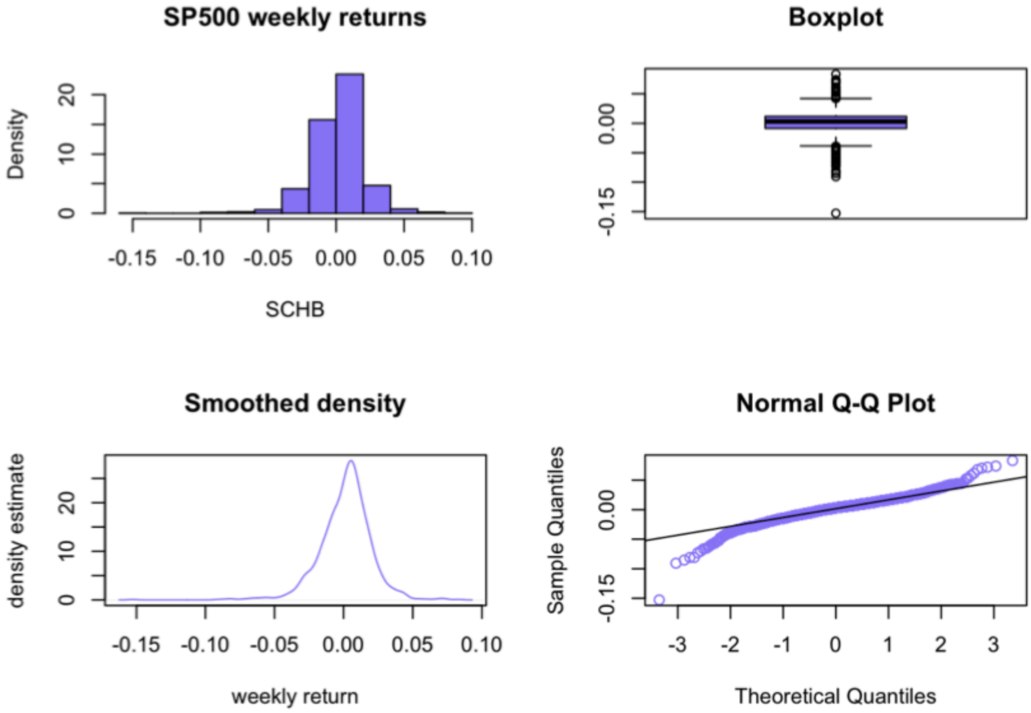
Appendix B



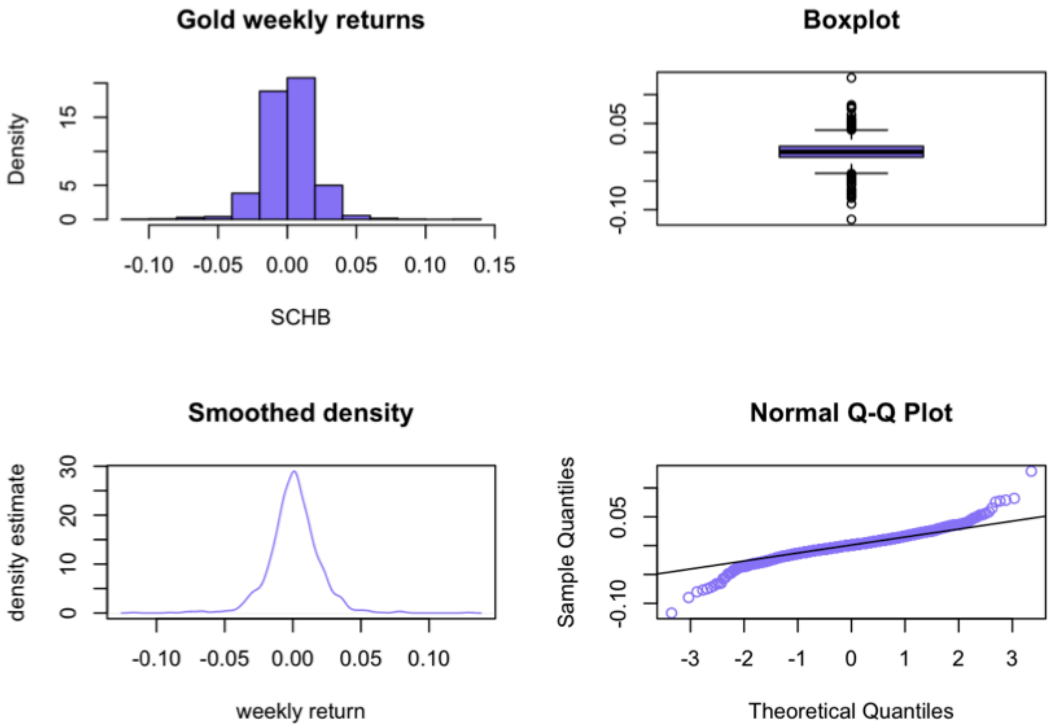
Appendix B 1 Plotted weekly returns

	SP500	Gold	Crudoil	CHFUSD
Observations	1252.0000	1252.0000	1252.0000	1252.0000
NAs	0.0000	0.0000	0.0000	0.0000
Minimum	-0.1528	-0.1168	-0.2030	-0.0751
Quartile 1	-0.0084	-0.0083	-0.0229	-0.0082
Median	0.0031	0.0008	0.0028	-0.0004
Arithmetic Mean	0.0013	0.0009	0.0012	-0.0004
Geometric Mean	0.0011	0.0007	0.0003	-0.0005
Quartile 3	0.0118	0.0104	0.0265	0.0077
Maximum	0.0831	0.1290	0.2821	0.0581
SE Mean	0.0005	0.0005	0.0012	0.0004
LCL Mean (0.95)	0.0003	-0.0001	-0.0012	-0.0012
UCL Mean (0.95)	0.0024	0.0019	0.0035	0.0003
Variance	0.0004	0.0003	0.0018	0.0002
Stdev	0.0189	0.0186	0.0425	0.0128
Skewness	-0.8377	-0.1027	-0.2092	-0.0617
Kurtosis	5.7631	5.3086	3.9328	1.6944

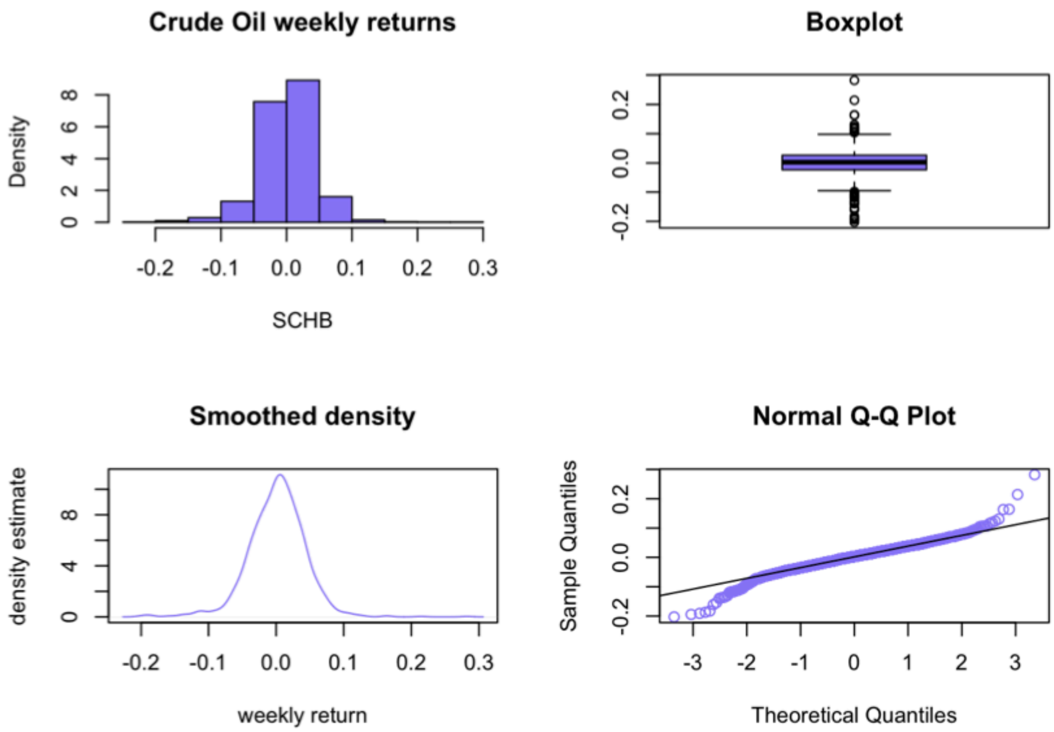
Appendix B 2 Descriptive statistics of weekly returns



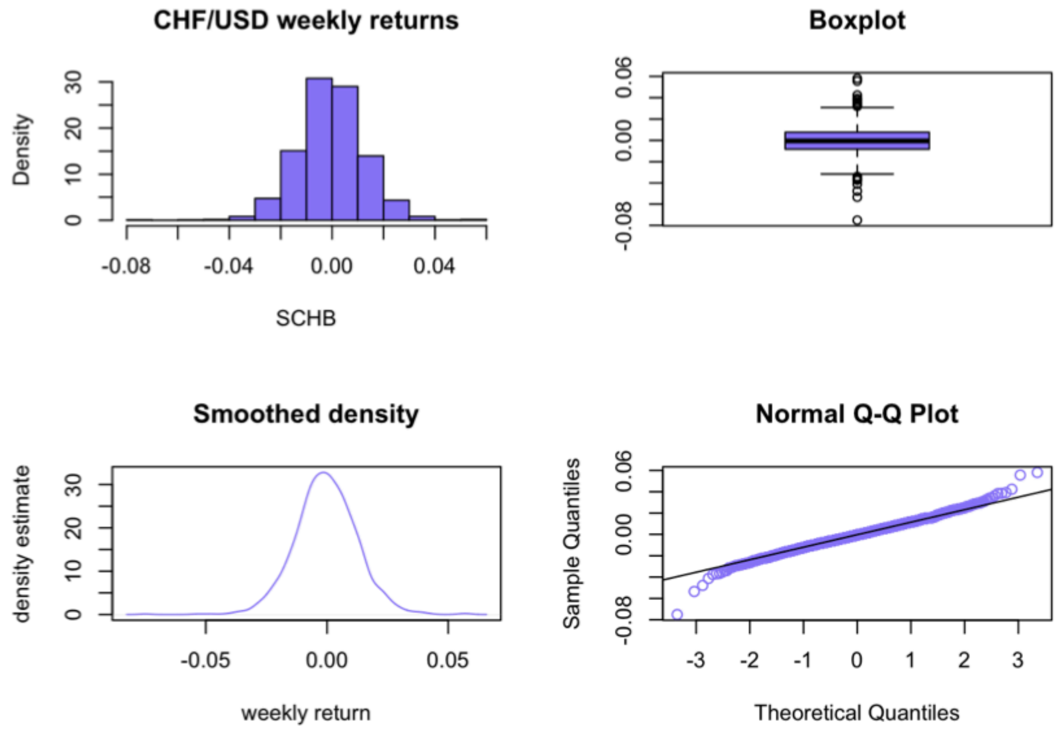
Appendix B 3 S&P 500 weekly return distribution



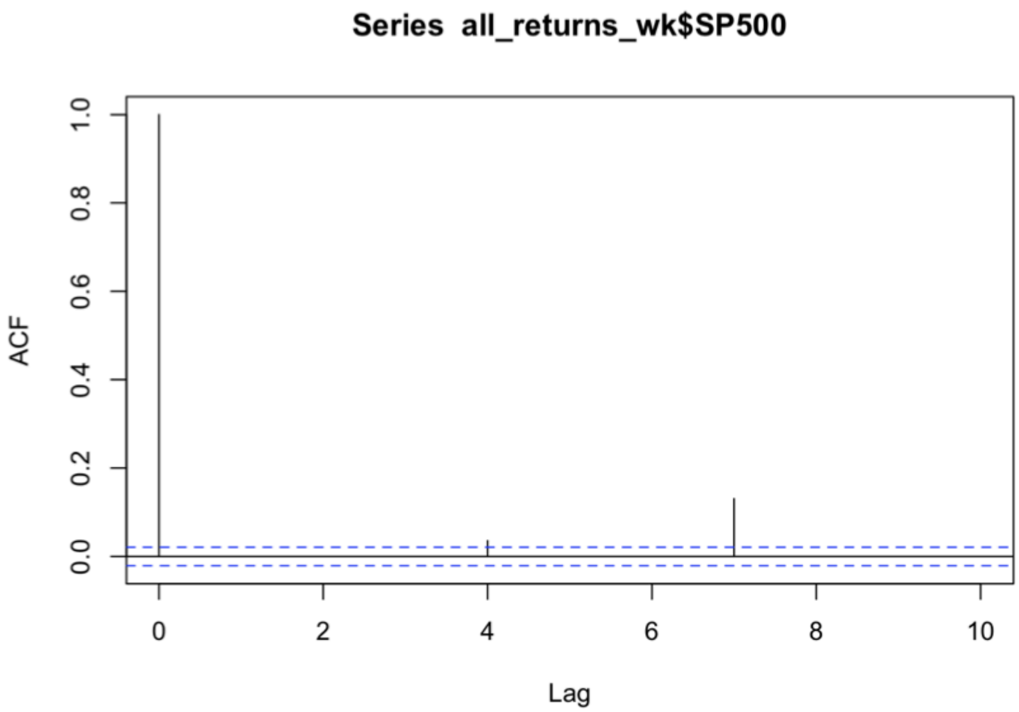
Appendix B 4 Gold weekly return distribution



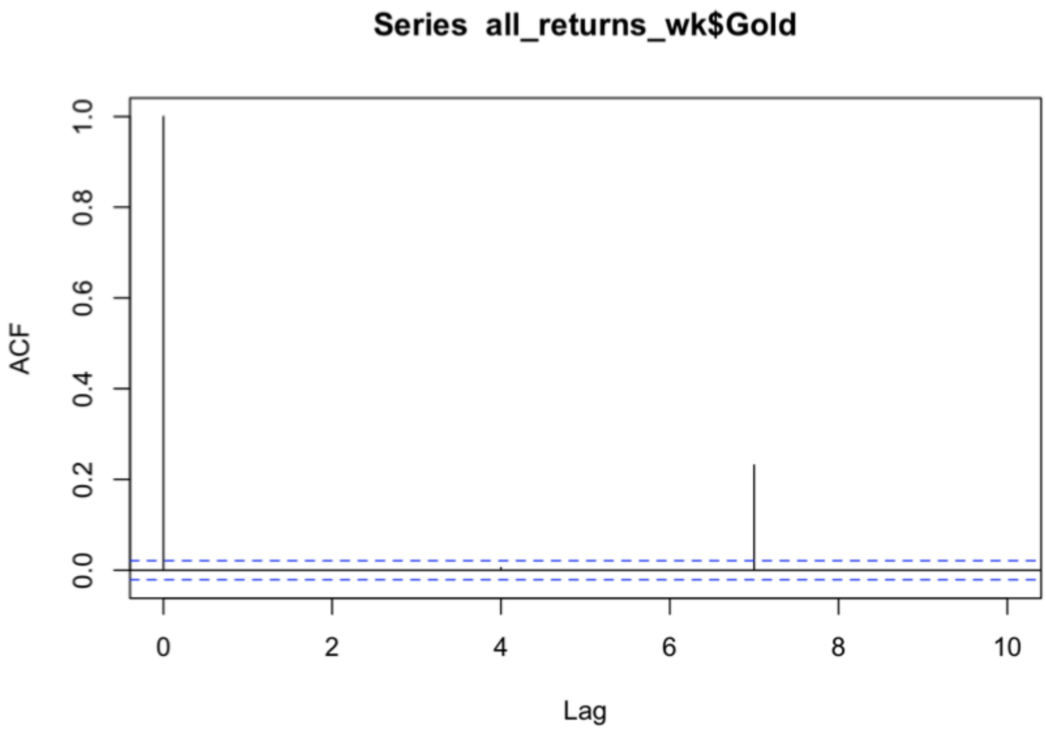
Appendix B 5 Crude oil weekly return distribution



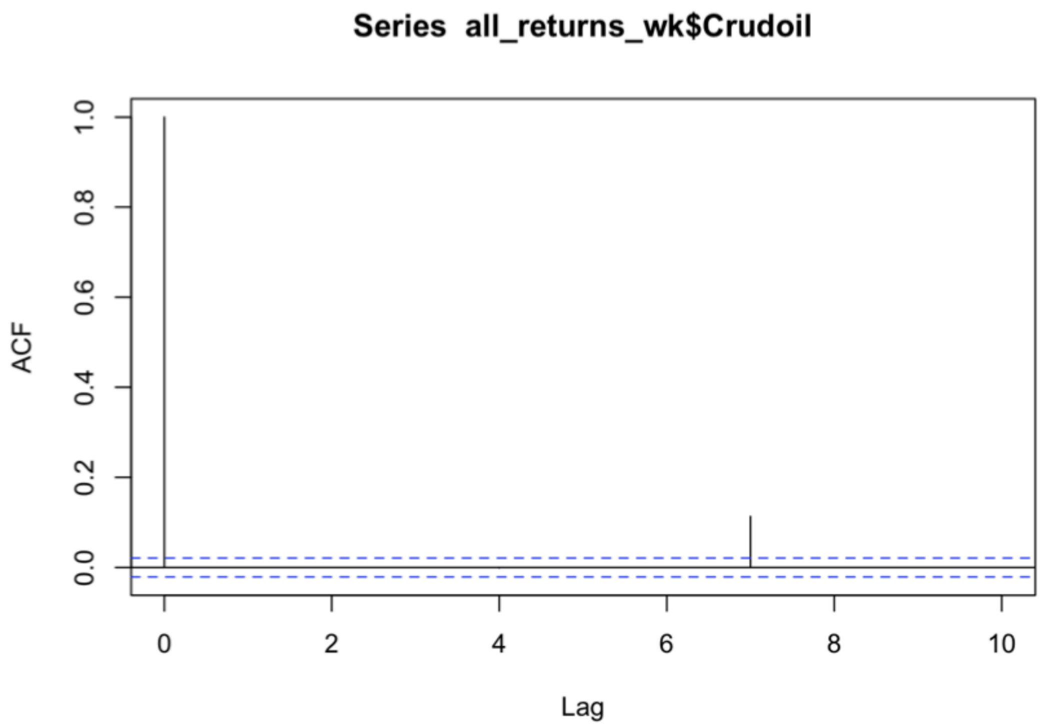
Appendix B 6 CHF/USD weekly return distribution



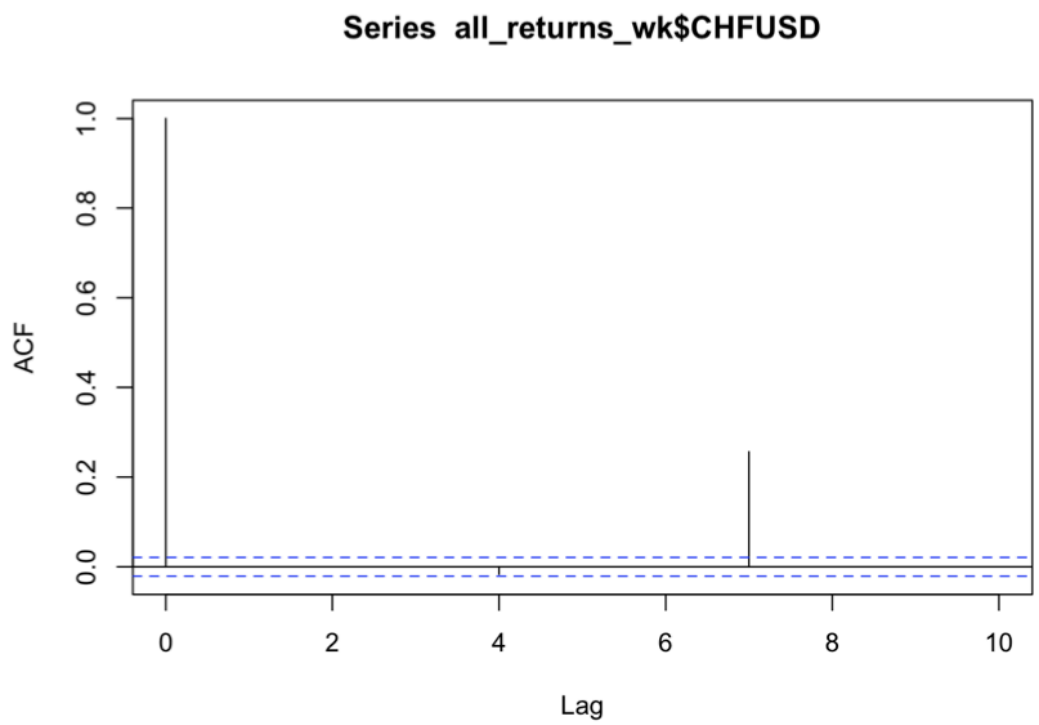
Appendix B 7 S&P 500 weekly autocorrelation



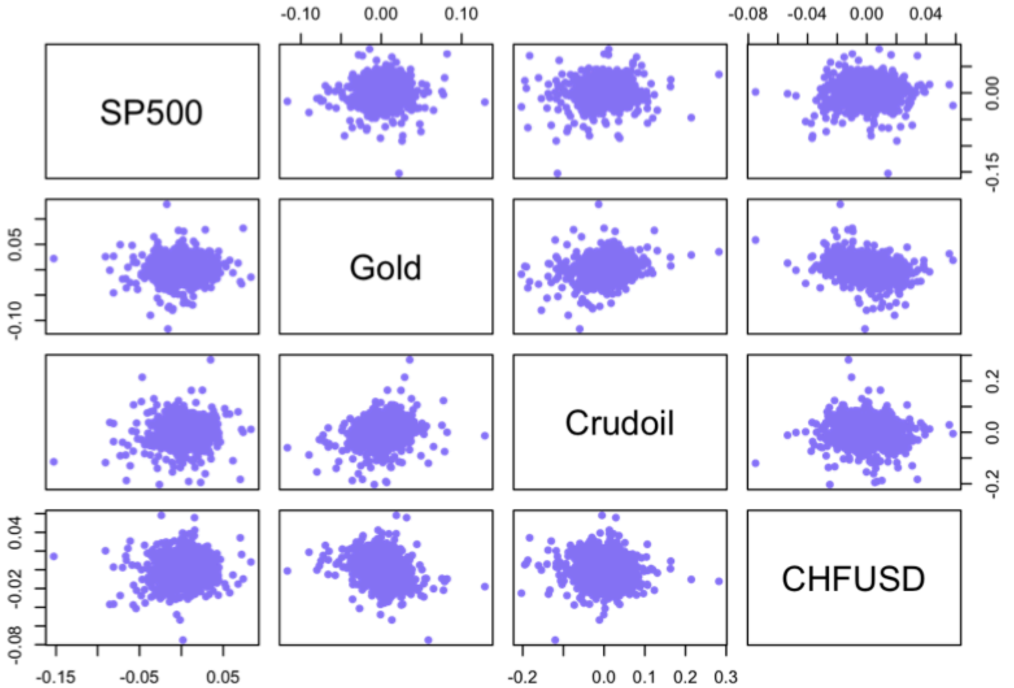
Appendix B 8 Gold weekly autocorrelations



Appendix B 9 Crude oil weekly autocorrelations



Appendix B 10 CHF/USD weekly autocorrelations



Appendix B 11 weekly return correlation plot

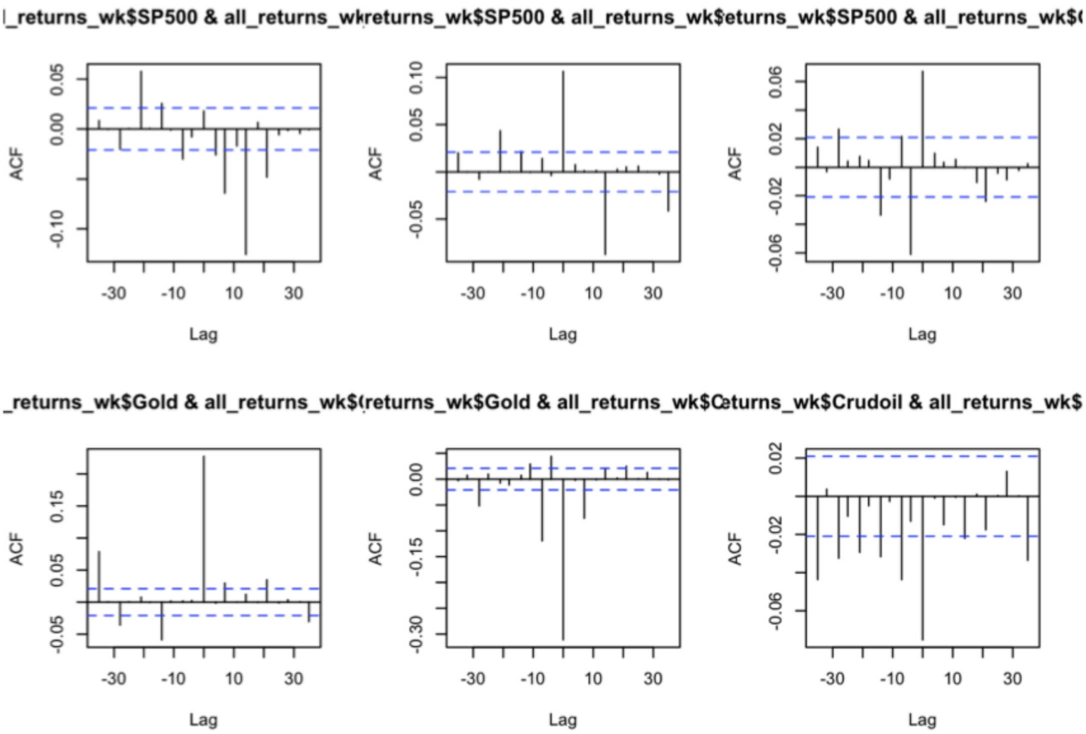
Coefficients and bootstrapped confidence intervals

	SP500	Gold	Crudl	CHFUS
SP500	1.00			
Gold	0.02	1.00		
Crudoil	0.11	0.23	1.00	
CHFUSD	0.07	-0.31	-0.08	1.00

scale correlations and bootstrapped confidence intervals

	lower.emp	lower.norm	estimate	upper.norm	upper.emp	p
SP500-Gold	-0.06	-0.05	0.02	0.08	0.08	0.65
SP500-Crudl	0.01	0.01	0.11	0.19	0.19	0.03
SP500-CHFUS	0.01	0.00	0.07	0.13	0.15	0.06
Gold-Crudl	0.17	0.16	0.23	0.29	0.29	0.00
Gold-CHFUS	-0.37	-0.37	-0.31	-0.25	-0.25	0.00
Crudl-CHFUS	-0.14	-0.15	-0.08	0.00	0.00	0.04

Appendix B 12 weekly return correlations and confidence intervals



Appendix B 13 Weekly return cross-correlations

	Estimate	Std. Error	t value	Pr(>|t|)	
mu	2.277e-03	4.089e-04	5.568	2.57e-08	***
omega	1.055e-05	3.352e-06	3.147	0.00165	**
alpha1	1.517e-01	2.485e-02	6.104	1.03e-09	***
beta1	8.235e-01	2.866e-02	28.737	< 2e-16	***

Appendix B 14 S&P 500 GARCH output

	Estimate	Std. Error	t value	Pr(>|t|)	
mu	1.709e-04	3.998e-04	0.427	0.6691	
omega	7.360e-06	2.319e-06	3.175	0.0015	**
alpha1	1.555e-01	2.397e-02	6.486	8.82e-11	***
beta1	8.412e-01	1.943e-02	43.299	< 2e-16	***

Appendix B 15 Gold GARCH output

	Estimate	Std. Error	t value	Pr(>|t|)	
mu	1.203e-03	9.917e-04	1.213	0.22503	
omega	5.669e-05	1.848e-05	3.068	0.00216	**
alpha1	1.054e-01	1.726e-02	6.104	1.03e-09	***
beta1	8.634e-01	2.138e-02	40.385	< 2e-16	***

Appendix B 16 Crude oil GARCH output

	Estimate	Std. Error	t value	Pr(>|t|)	
mu	-5.040e-04	3.496e-04	-1.442	0.1493	
omega	9.930e-06	3.994e-06	2.486	0.0129	*
alpha1	7.143e-02	1.683e-02	4.244	2.2e-05	***
beta1	8.681e-01	3.413e-02	25.434	< 2e-16	***

Appendix B 17 CHF/USD GARCH output