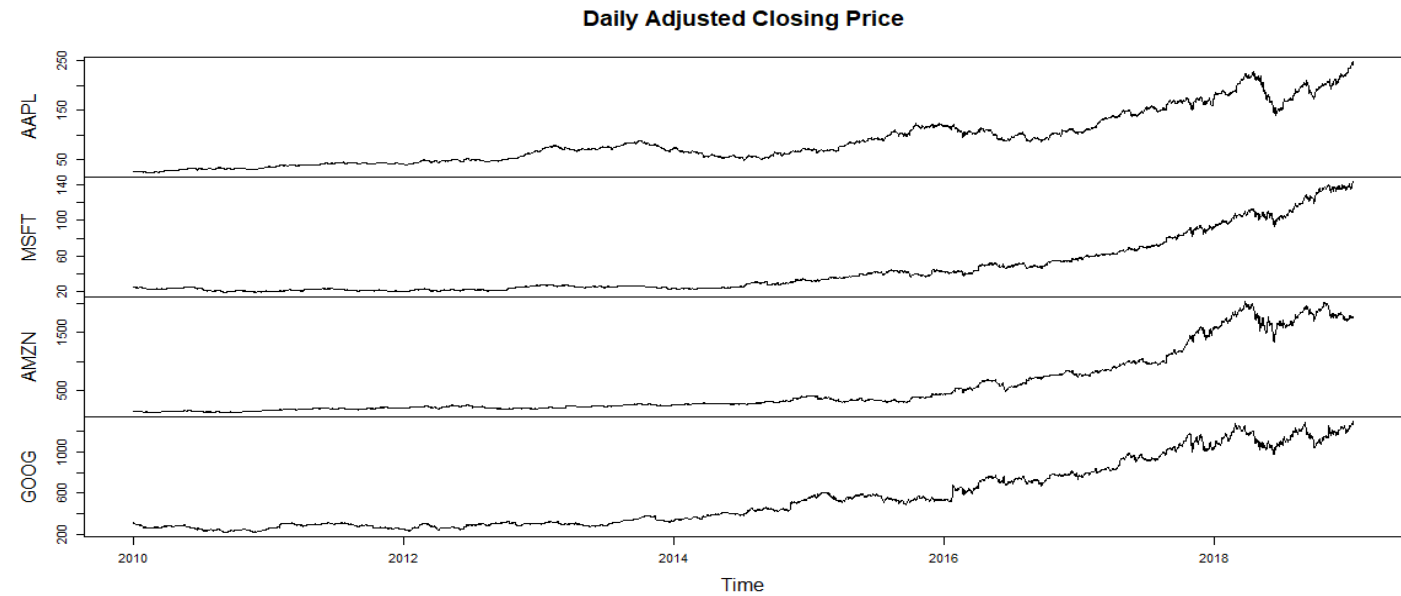
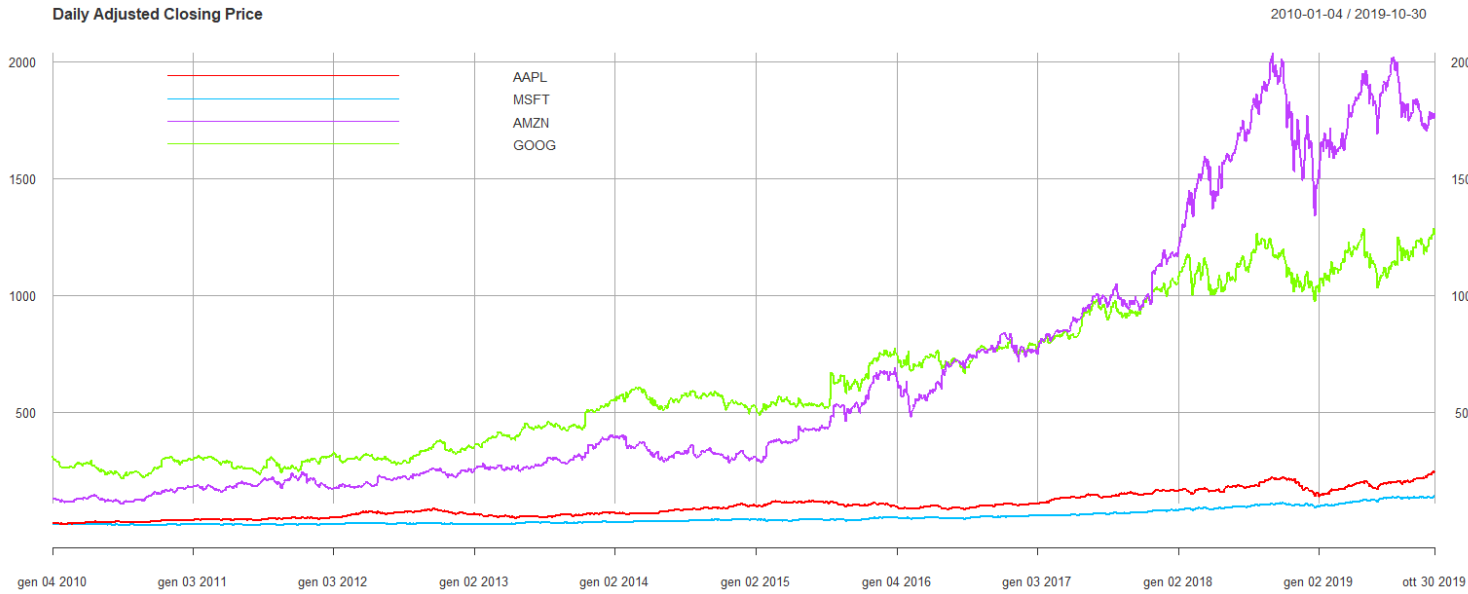


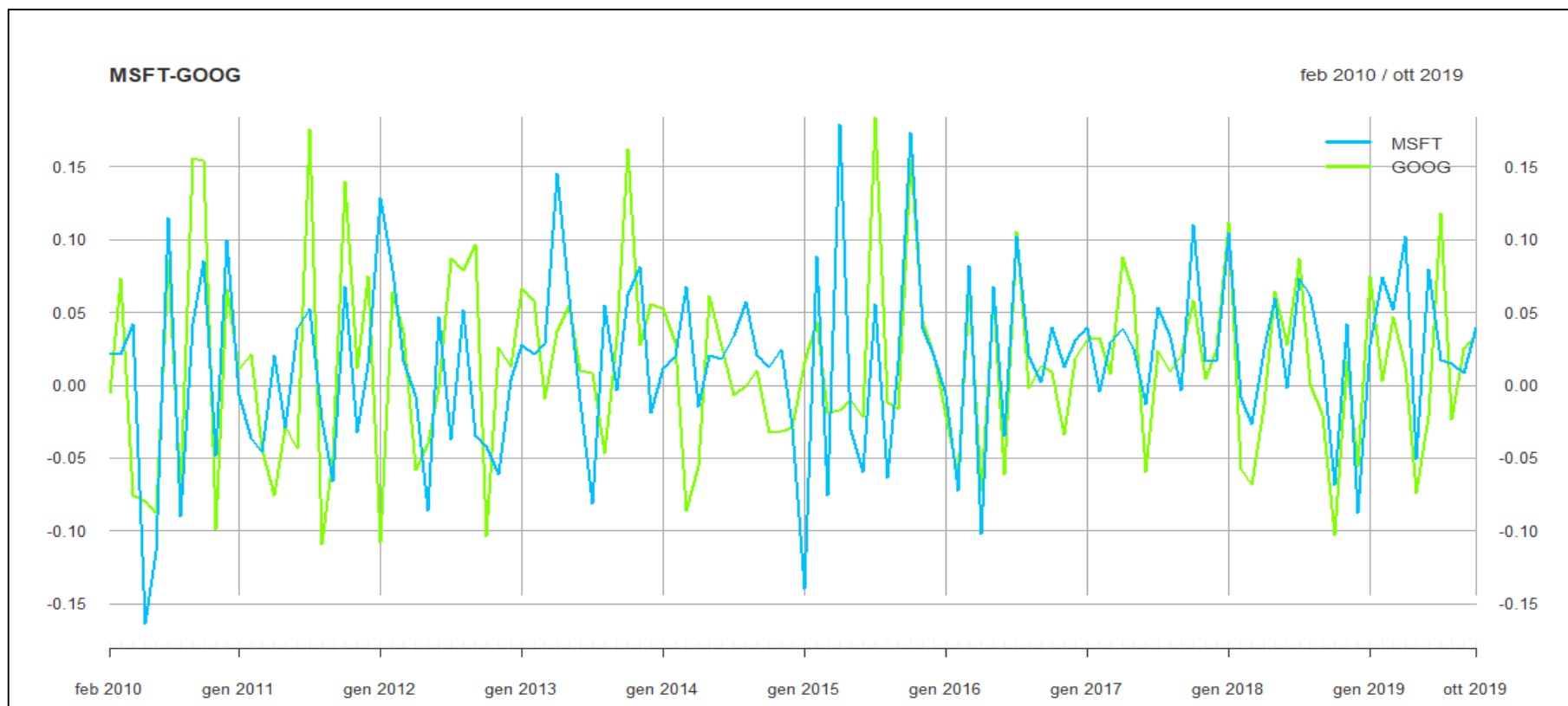
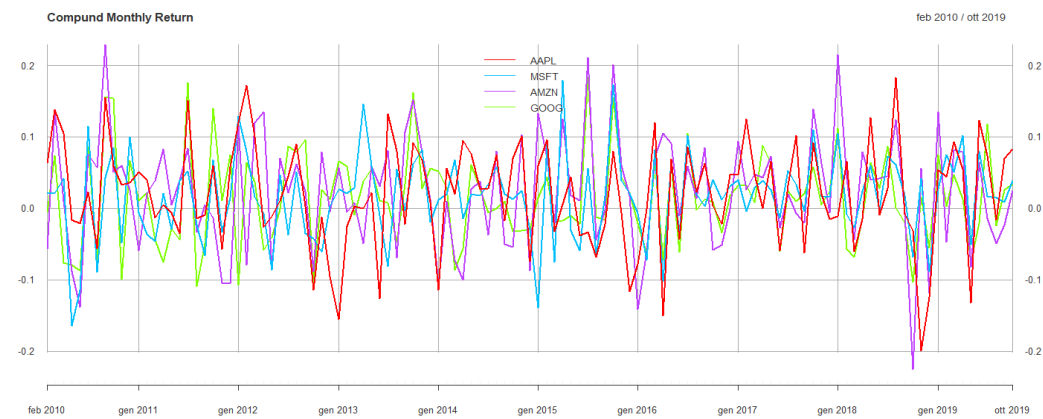
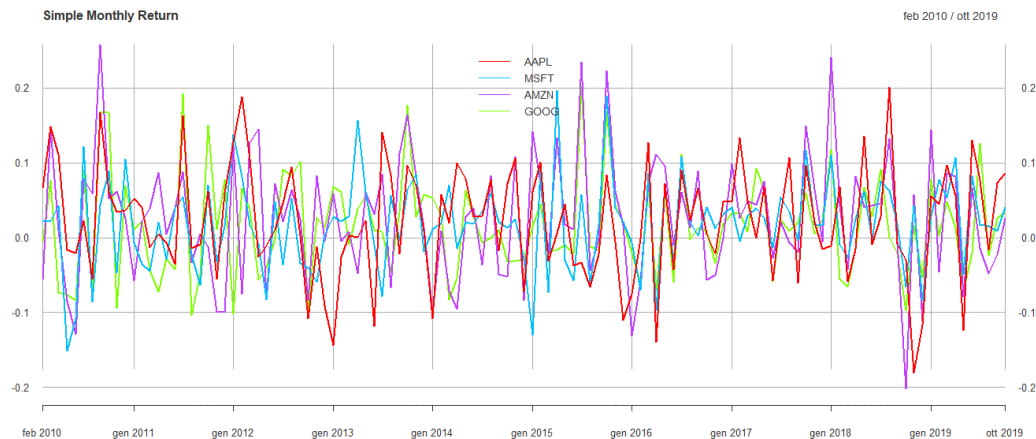
Progetto di Business Intelligence per i Servizi Finanziari

Lorenzo Lorgna 829776

Apple, Microsoft, Amazon, Google

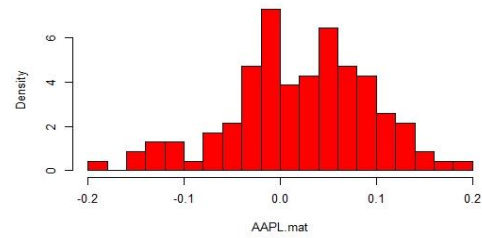


Ritorni mensili semplici e composti

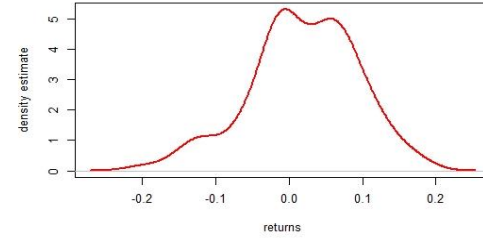


Plot diagnostici

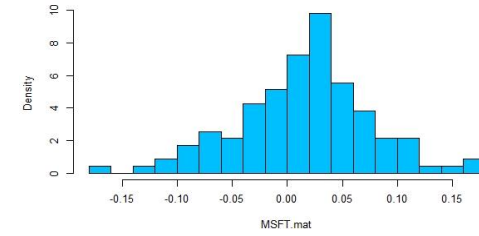
Histogram of AAPL monthly return



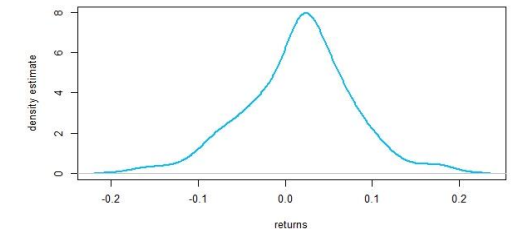
Smoothed AAPL histogram



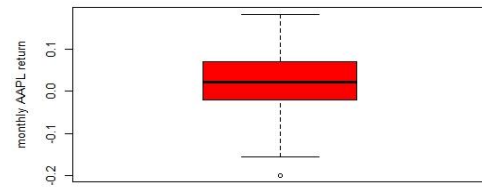
Histogram of MSFT monthly return



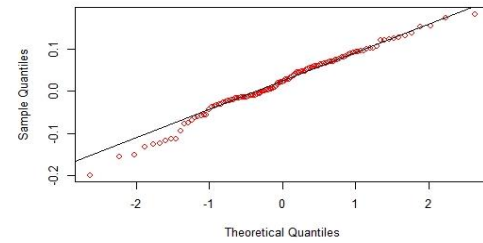
Smoothed MSFT histogram



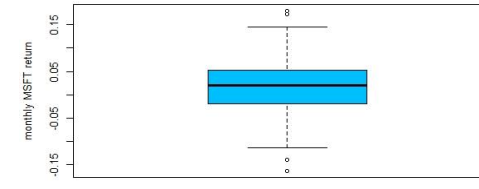
AAPL boxplot



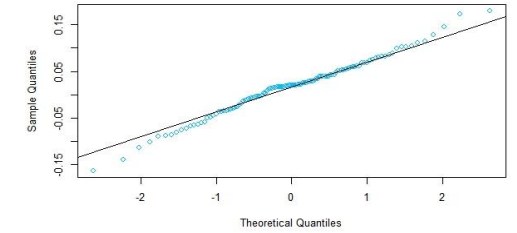
AAPL



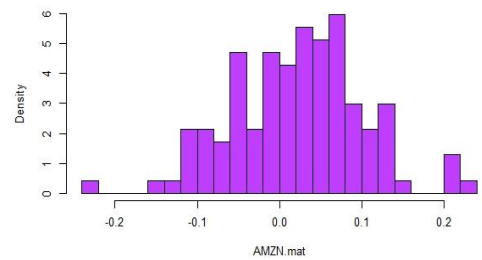
MSFT boxplot



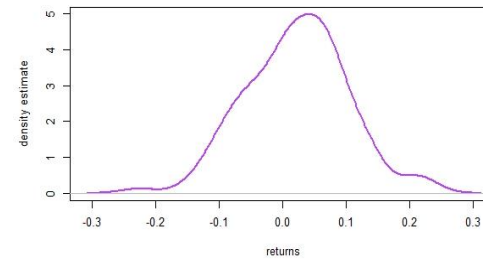
MSFT



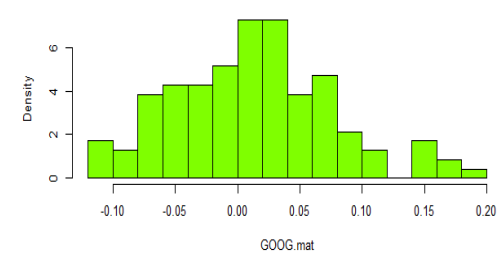
Histogram of AMZN monthly return



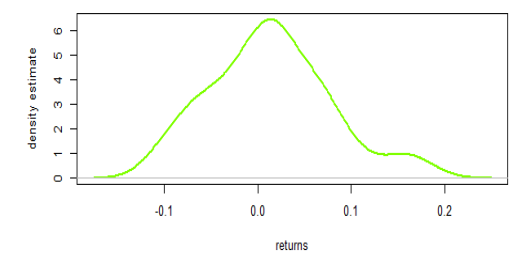
Smoothed AMZN histogram



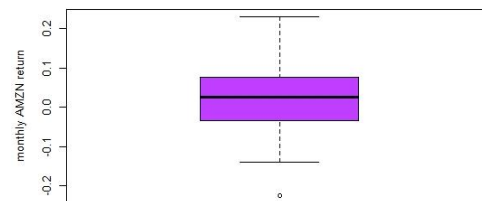
Histogram of GOOG monthly return



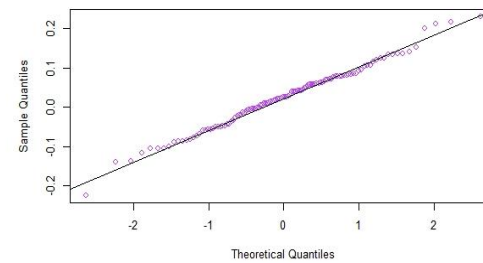
Smoothed GOOG histogram



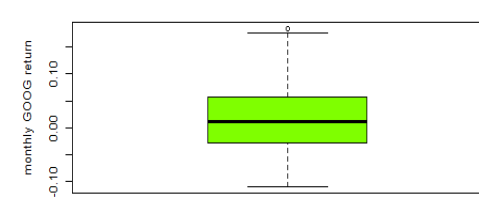
AMZN boxplot



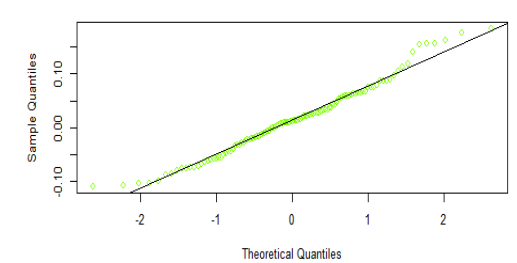
AMZN



GOOG boxplot

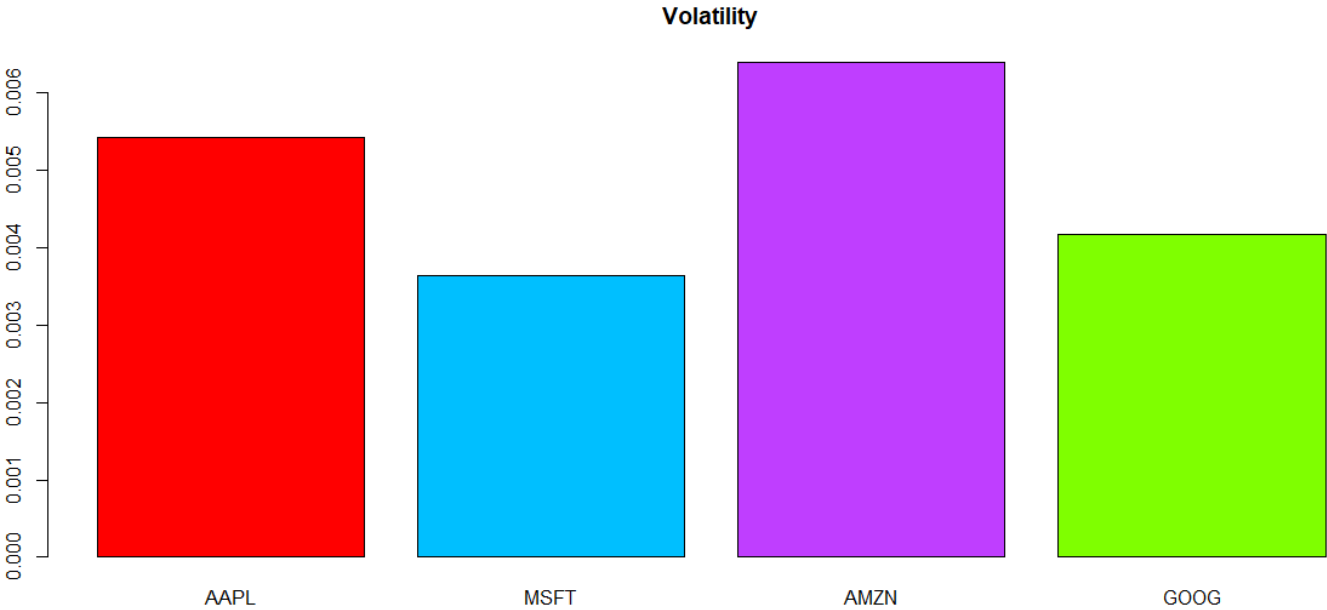


GOOG



Statistiche descrittive

	MEAN	VARIANCE	STANDARD DEVIATION	SKEWNESS	KURTOSIS
AAPL	0.01981523	0.005420782	0.07362596	-0.38689812	0.11574741
MSFT	0.01599514	0.003630559	0.06025412	-0.17064412	0.55332373
AMZN	0.02267329	0.006387189	0.07991989	-0.04906519	0.27868696
GOOG	0.01336765	0.004175347	0.06461693	0.36498301	-0.02204058

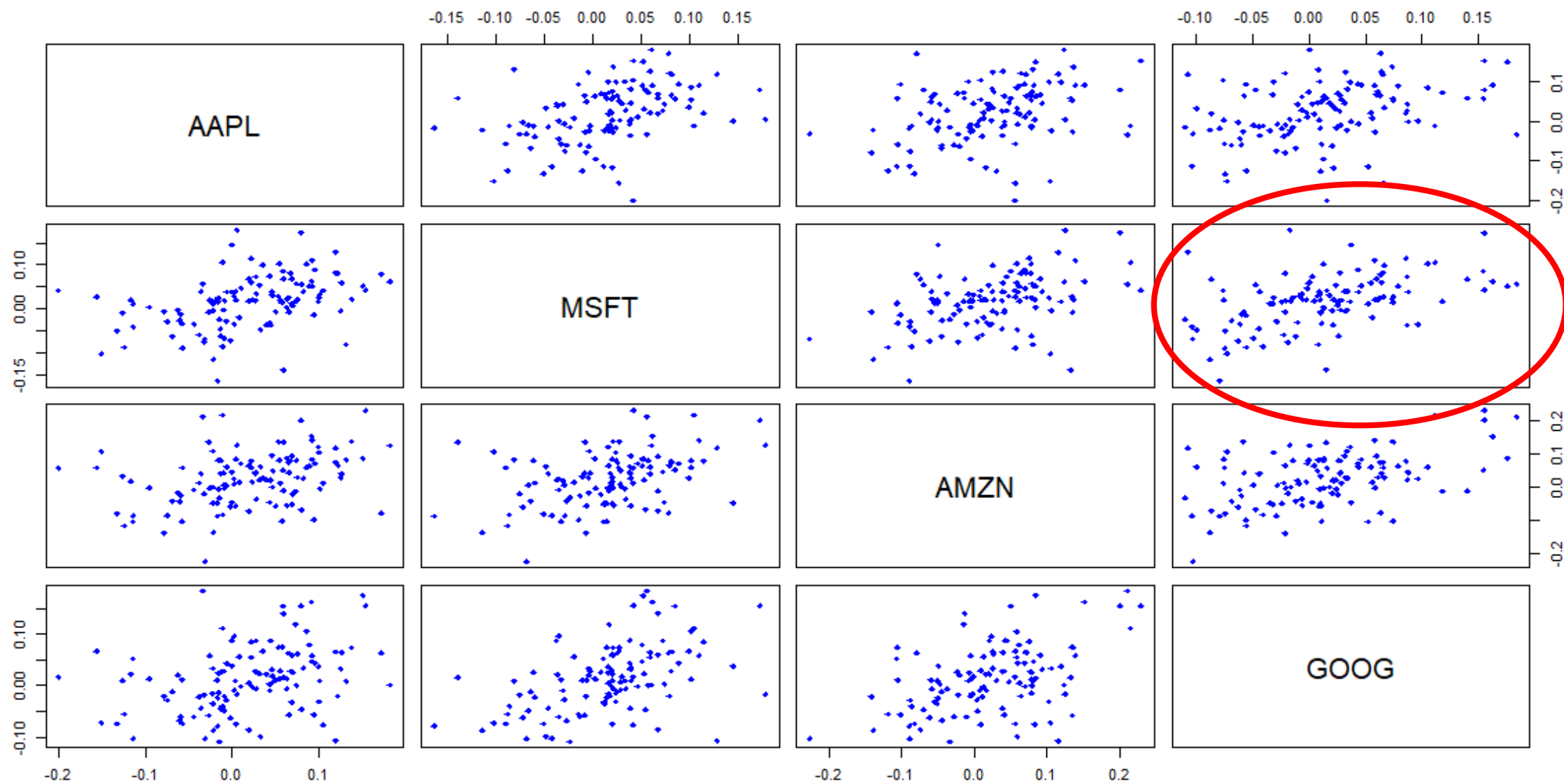


Covarianza e Correlazione

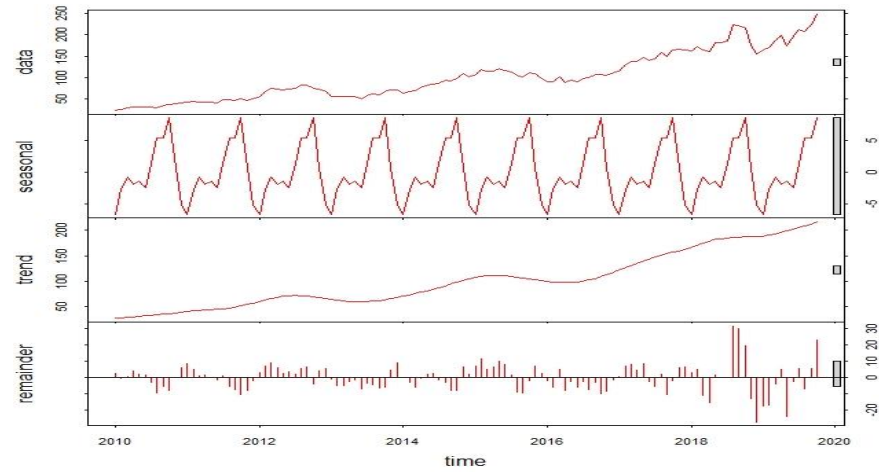
	AAPL	MSFT	AMZN	GOOG
AAPL	0.005420782	0.001806696	0.002024715	0.001635556
MSFT	0.001806696	0.003630559	0.001969761	0.001899068
AMZN	0.002024715	0.001969761	0.006387189	0.002450915
GOOG	0.001635556	0.001899068	0.002450915	0.004175347

	AAPL	MSFT	AMZN	GOOG
AAPL	1.0000000	0.4072560	0.3440948	0.3437860
MSFT	0.4072560	1.0000000	0.4090457	0.4877614
AMZN	0.3440948	0.4090457	1.0000000	0.4745992
GOOG	0.3437860	0.4877614	0.4745992	1.0000000

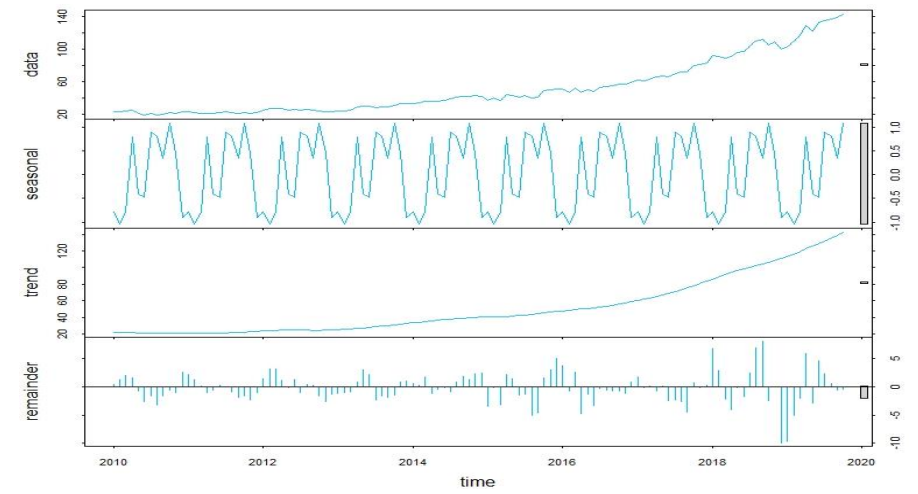
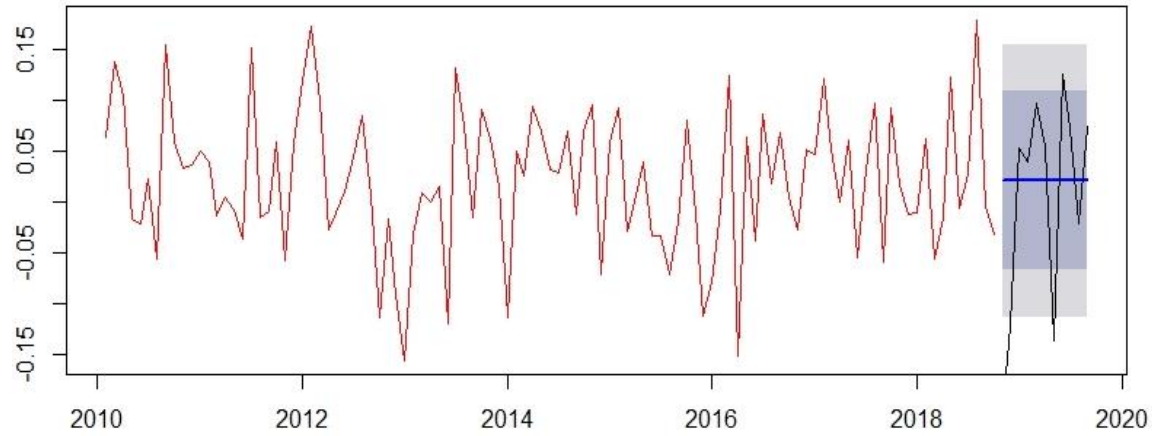
Scatter plot



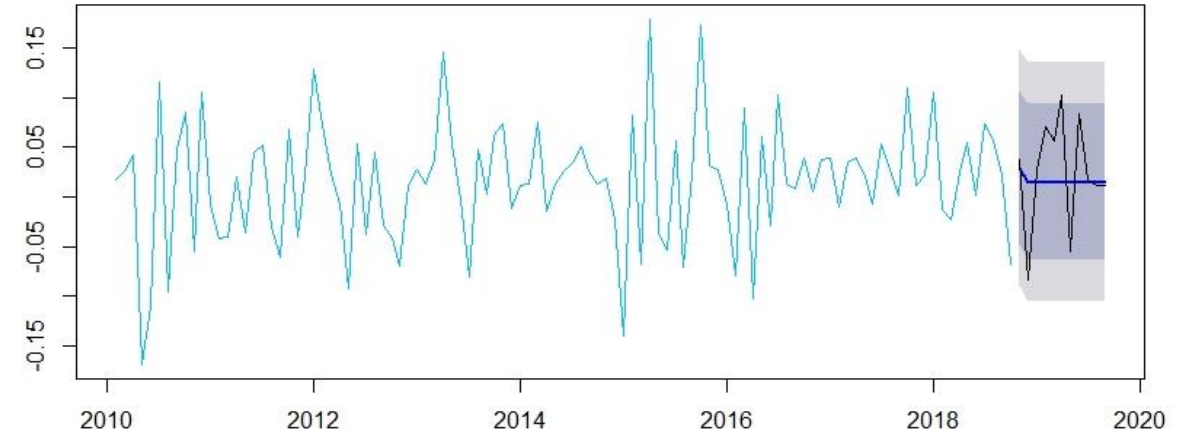
Analisi predittiva



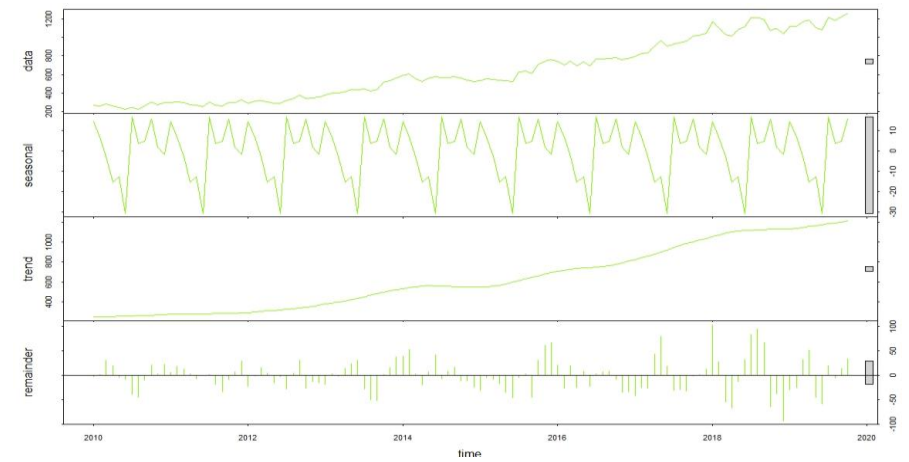
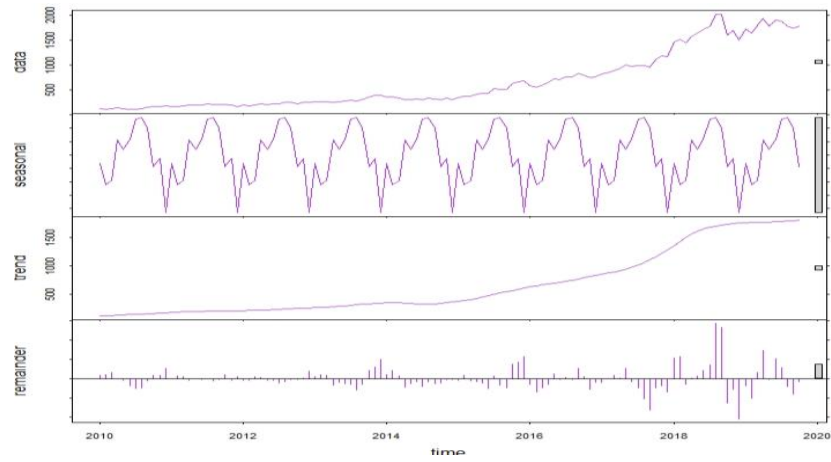
ARMA forecasts for AAPL returns



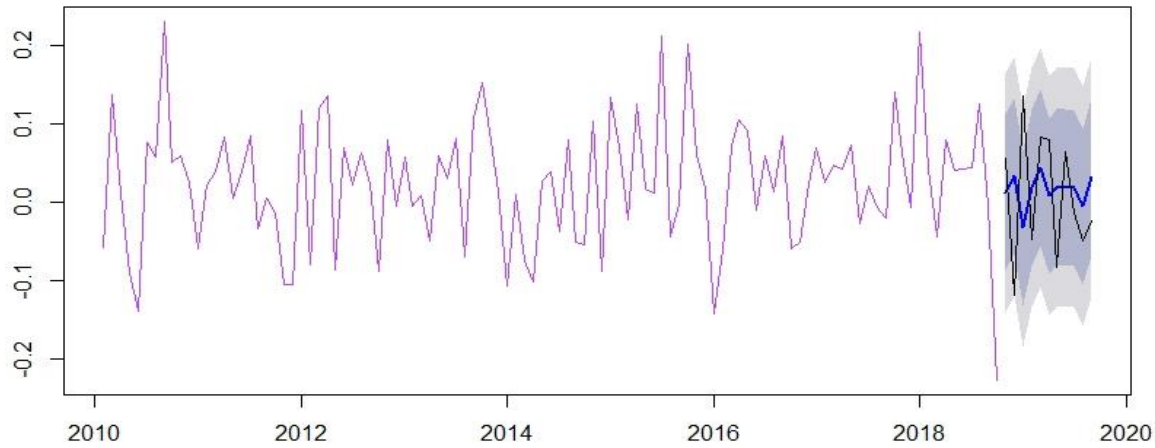
ARMA forecasts for MSFT returns



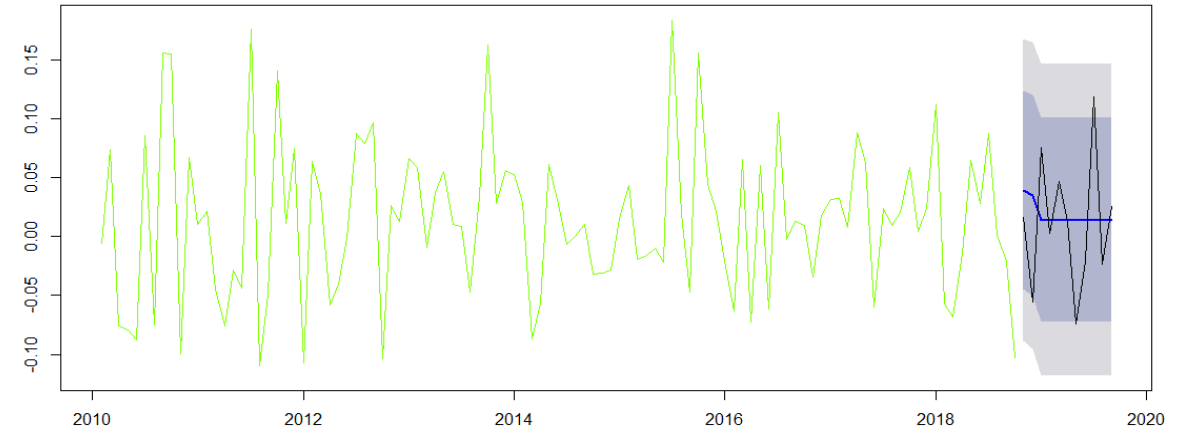
Analisi predittiva



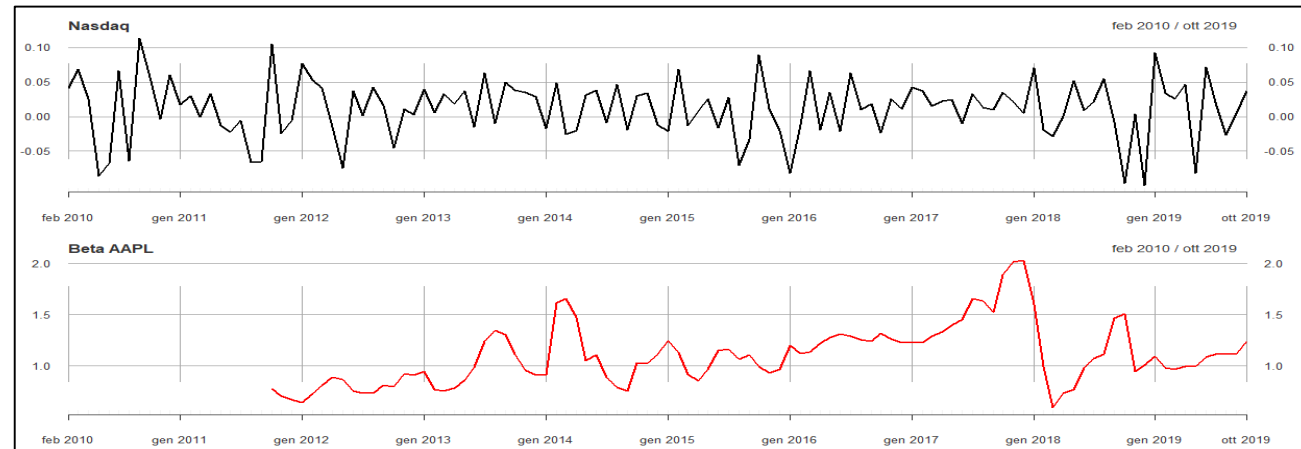
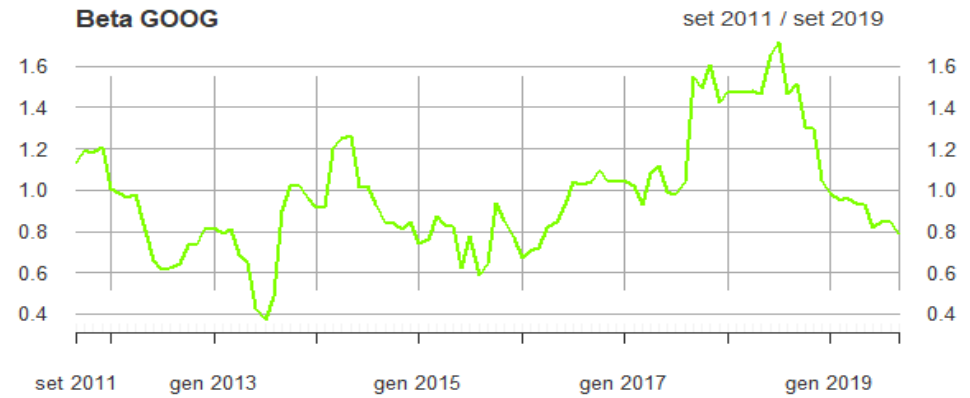
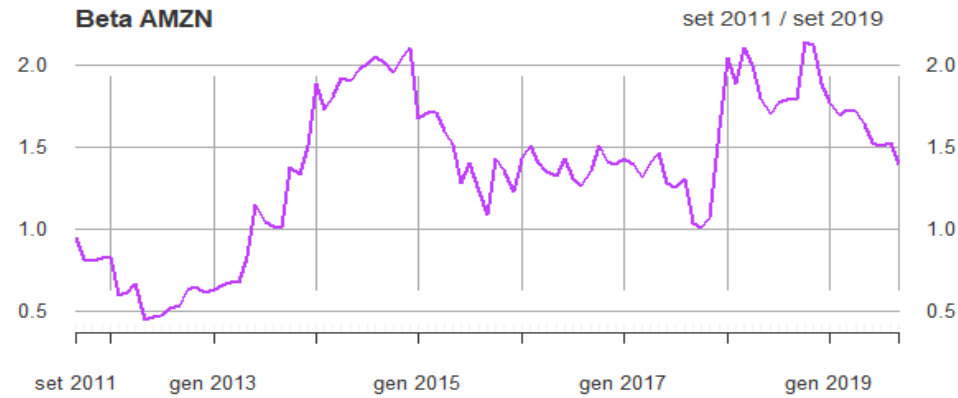
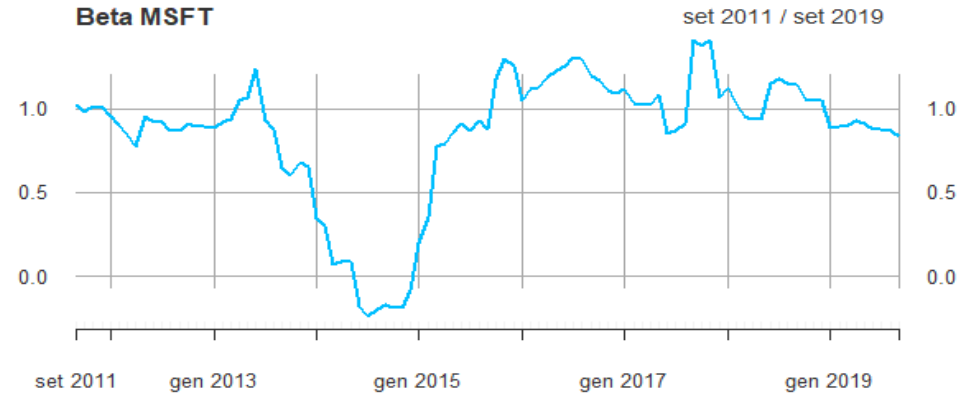
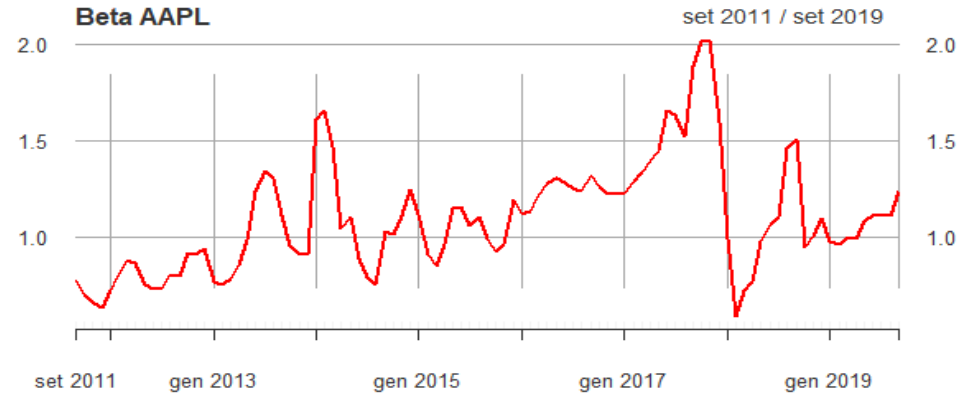
ARMA forecasts for AMZN returns



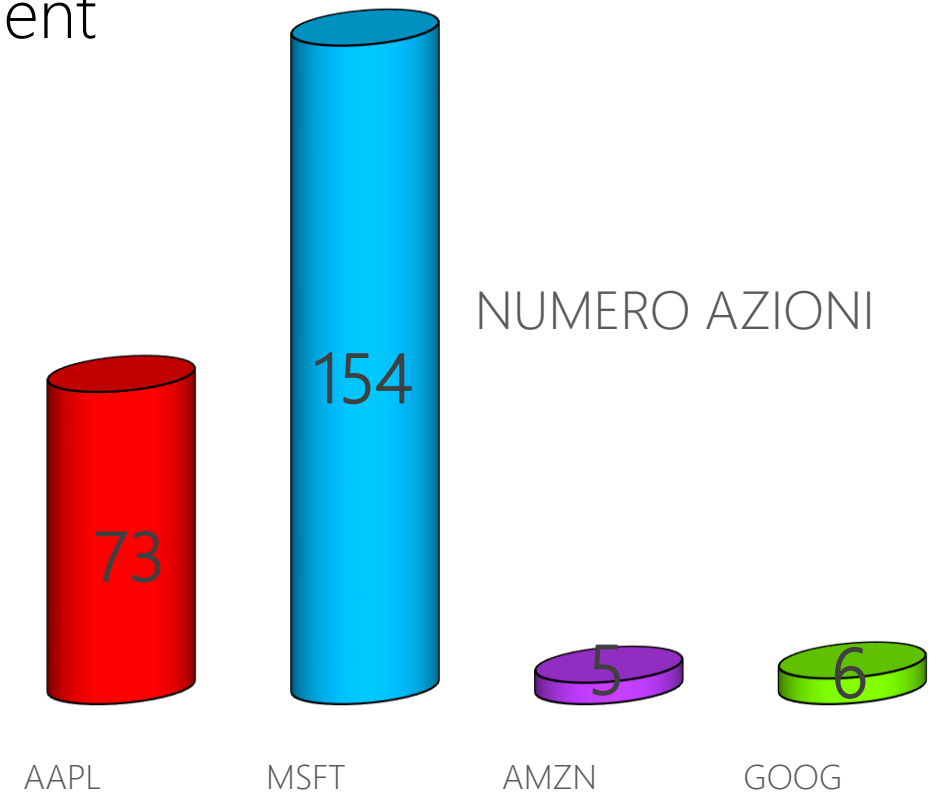
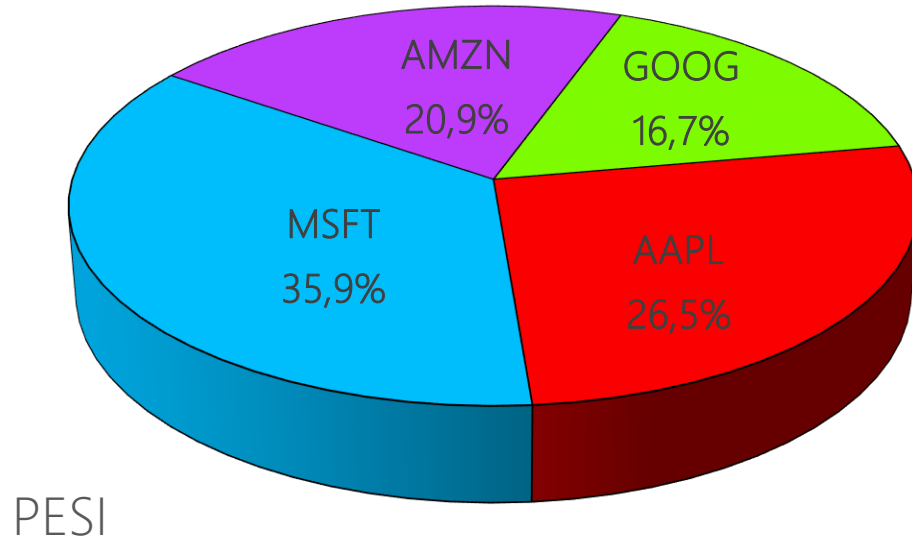
ARMA forecasts for GOOG returns



Beta



Portfolio management



Budget iniziale:	50000
Periodo:	gennaio 2019 – ottobre 2019
Investimento iniziale:	40673,84
Costi transazioni:	4852,039 (5%)
Guadagno lordo / netto:	15693,09 / 10841,05
Ritorno portfolio:	0.01796283