A Additional Graphs

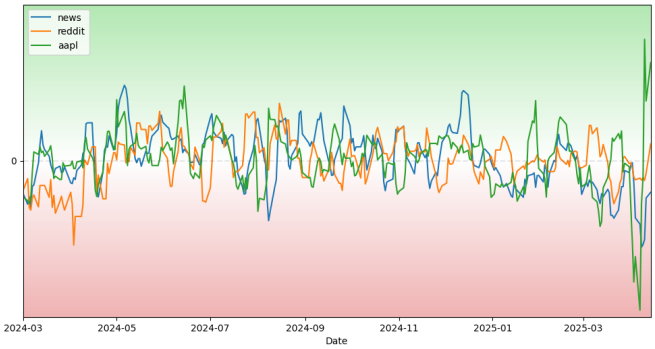

Figure 3: AAPL Sentiment and Price Trends

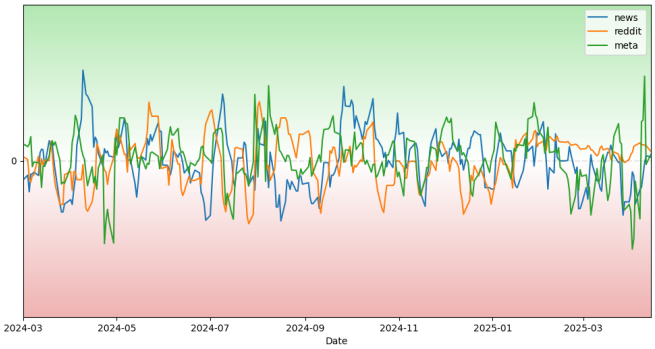

Figure 4: META Sentiment and Price Trends

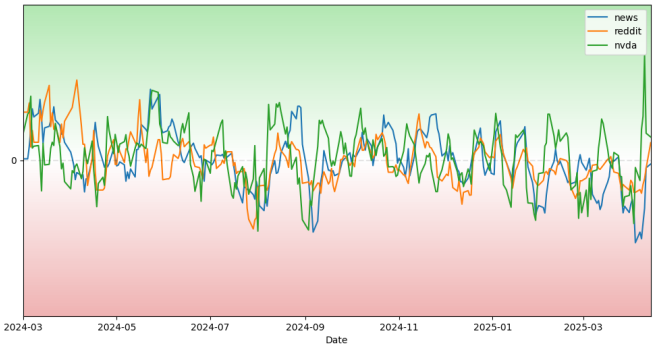

Figure 5: NVDA Sentiment and Price Trends

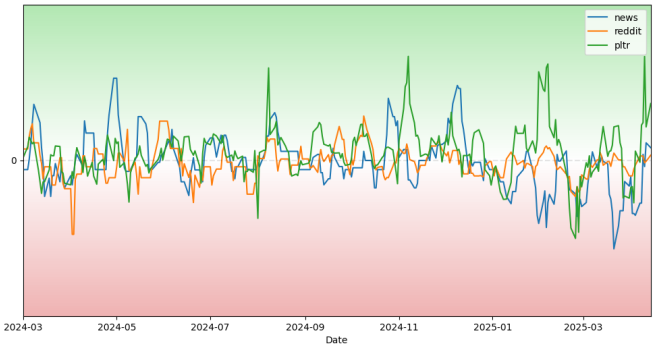

Figure 6: PLTR Sentiment and Price Trends

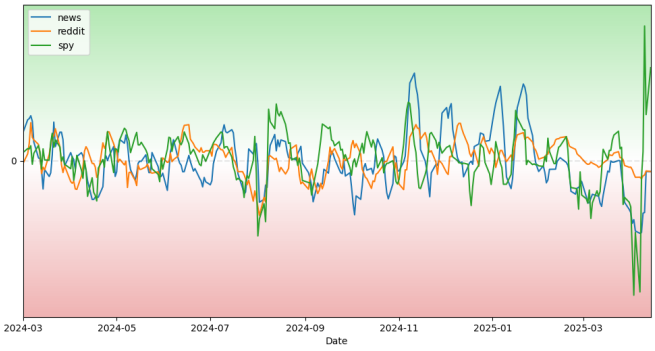

Figure 7: SPY Sentiment and Price Trends

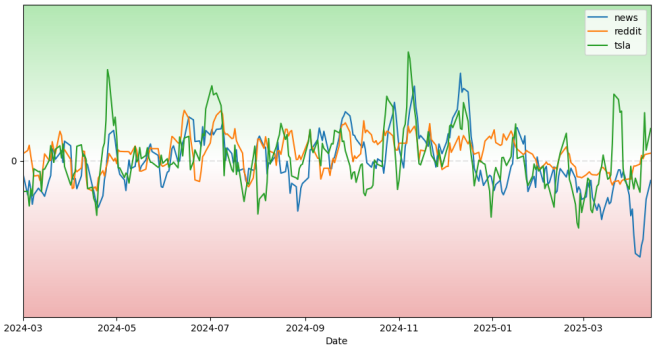

Figure 8: TSLA Sentiment and Price Trends

Figure 9: Sentiment and Price Trends

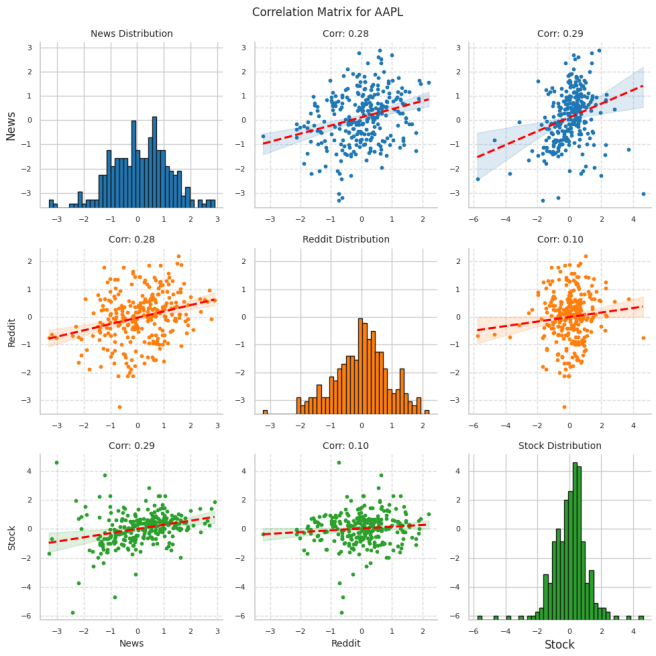

Figure 10: AAPL Correlation Matrix Plots

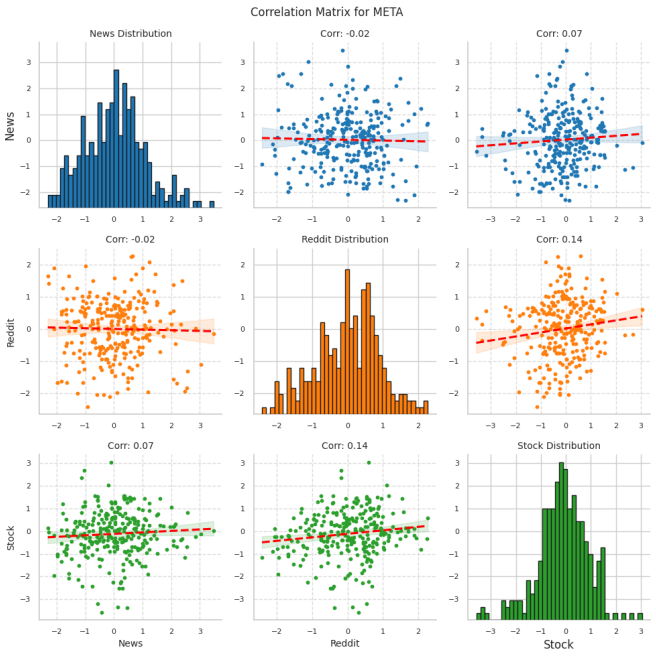

Figure 11: META Correlation Matrix Plots

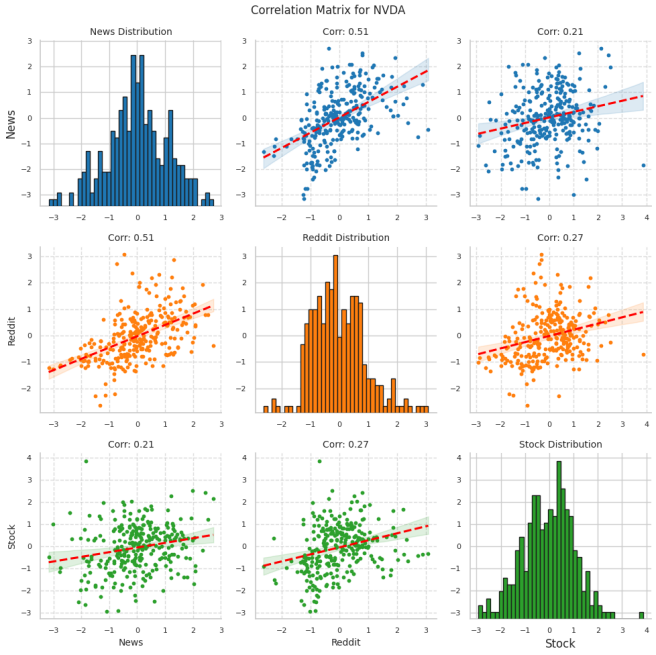

Figure 12: NVDA Correlation Matrix Plots

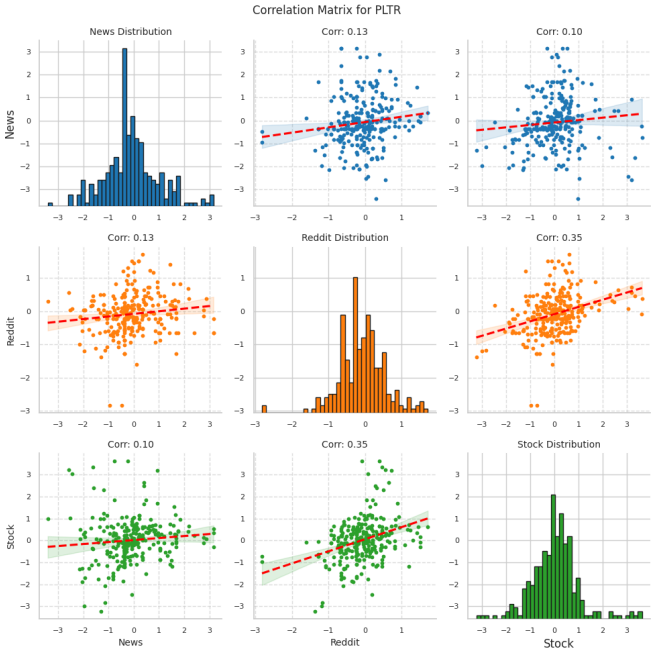

Figure 13: PLTR Correlation Matrix Plots

Figure 14: Correlation Matrix Plots

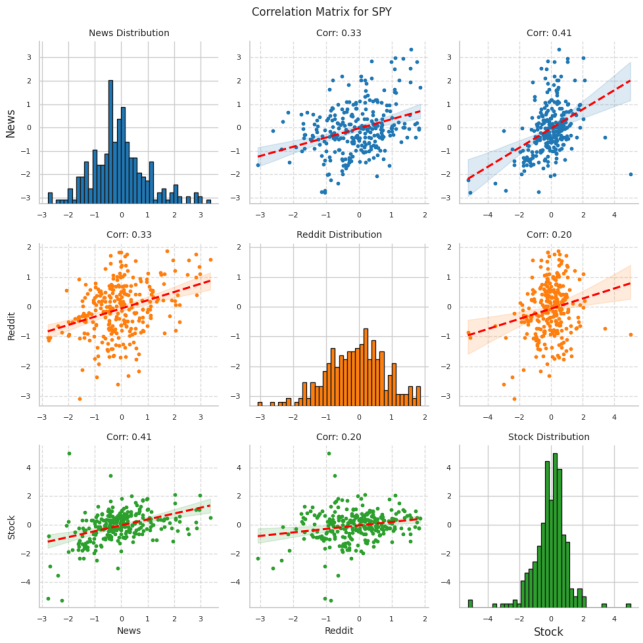

Figure 15: SPY Correlation Matrix Plots

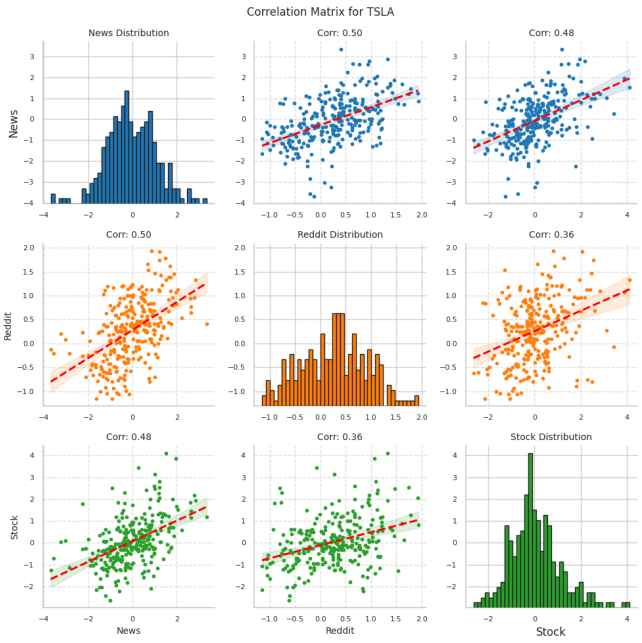

Figure 16: TSLA Correlation Matrix Plots

Figure 17: Correlation Matrix Plots

B Additional Tables

Table 7: Lead-Lag Correlation between Sentiment Indexes and Stock Price Movements for each Sentiment Type for AAPL, META and NVDA

Stocks	Sentiment Type	Direction	Shift 1	Shift 2	Shift 3	Shift 4	Shift 5
AAPL	Data-driven	news→stock	0.19**	0.13**	-0.01	-0.10**	-0.11**
		stock→news	0.35**	0.28**	0.19**	0.13**	0.01
		reddit→stock	-0.13**	-0.18**	-0.21**	-0.23**	-0.25**
		stock→reddit	-0.02	0.05*	0.12**	0.16**	0.20**
	Fiscal-related	news→stock	-0.05	-0.06*	-0.06	-0.04	0.01
		stock→news	0.10**	0.11**	0.12**	0.10**	0.06
		reddit→stock	-0.01	-0.05	-0.09**	-0.15**	-0.18**
		stock→reddit	0.11**	0.12**	0.07**	0.03	0.01
	Opinion-based	news→stock	-0.03	0.01	-0.07*	-0.15**	-0.14**
		stock→news	-0.11**	-0.16**	0.05*	-0.10**	-0.23**
		reddit→stock	-0.01	-0.05	-0.04	-0.08*	-0.12**
		stock→reddit	-0.06*	-0.03	0.06**	0.12**	0.14**
META	Data-driven	news→stock	-0.09**	-0.11**	-0.16**	-0.06*	0.05
		stock→news	0.11**	0.19**	0.17**	0.15**	0.10**
		reddit→stock	0.19**	0.16**	0.13**	0.10**	0.04
		stock→reddit	0.06*	-0.03	-0.09**	-0.13**	-0.07**
	Fiscal-related	news→stock	0.03	-0.03	-0.03	0.05	0.09**
		stock→news	0.13**	0.16**	0.08**	0.04	-0.01
		reddit→stock	0.09**	0.03	-0.07*	-0.11**	-0.06*
		stock→reddit	0.19**	0.17**	0.10**	0.06*	0.01
	Opinion-based	news→stock	-0.02	-0.02	-0.02	0.01	0.02
		stock→news	-0.08**	0.01	-0.01	0.03**	-0.05*
		reddit→stock	-0.11**	-0.13**	-0.09**	-0.04	-0.06*
		stock→reddit	0.01	-0.02	0.02	-0.00	-0.01
NVDA	Data-driven	news→stock	0.00	-0.04	-0.10**	-0.12**	-0.06
		stock→news	0.32**	0.32**	0.22**	0.15**	0.05*
		reddit→stock	0.03	-0.00	-0.05*	-0.05*	-0.07**
		stock→reddit	0.17**	0.23**	0.19**	0.21**	0.20**
	Fiscal-related	news→stock	-0.08**	-0.21**	-0.30**	-0.25**	-0.13**
		stock→news	0.20**	0.28**	0.23**	0.13**	0.13**
		reddit→stock	-0.09**	-0.18**	-0.22**	-0.23**	-0.22**
		stock→reddit	0.15**	0.16**	0.14**	0.08**	0.01
	Opinion-based	news→stock	-0.11**	-0.04	0.02	0.16**	0.19**
		stock→news	-0.01	0.07	0.22**	0.27**	0.19**
		reddit→stock	0.20**	0.14**	0.07	0.01	-0.06
		stock→reddit	0.27**	0.31**	0.32**	0.27**	0.19**

Note: * indicates p-value < 0.05, ** indicates p-value < 0.01. Coefficients without a star are not significant (p-value ≥ 0.05).

Table 8: Lead-Lag Correlation between Sentiment Indexes and Stock Price Movements for each Sentiment Type for PLTR, TSLA and SPY

Stocks	Sentiment Type	Direction	Shift 1	Shift 2	Shift 3	Shift 4	Shift 5
PLTR	Data-driven	news→stock	-0.06**	-0.20**	-0.23**	-0.15**	-0.01
		stock→news	0.21**	0.25**	0.19**	0.04	-0.02
		reddit→stock	-0.09**	-0.15**	-0.13**	-0.04	0.01
		stock→reddit	0.02	0.02	-0.03	-0.03	0.03
	Fiscal-related	news→stock	0.17**	0.08**	-0.03	-0.09**	-0.05
		stock→news	0.23**	0.16**	0.01	-0.11**	-0.17**
		reddit→stock	0.11**	0.06*	0.01	-0.02	-0.03
		stock→reddit	0.20**	0.20**	0.16**	0.13**	0.01
	Opinion-based	news→stock	-0.19**	-0.11**	-0.13**	0.01	-0.02
		stock→news	-0.09**	0.00	0.08**	0.08**	0.03*
		reddit→stock	0.08**	0.10**	0.10**	0.08*	0.02
		stock→reddit	0.07**	0.06**	0.05**	0.03*	0.08**
TSLA	Data-driven	news→stock	0.12**	0.07*	-0.01	-0.09**	-0.06*
		stock→news	0.41**	0.43**	0.40**	0.33**	0.18**
		reddit→stock	0.10**	-0.00	-0.05	-0.10**	-0.10**
		stock→reddit	0.28**	0.30**	0.29**	0.19**	0.03
	Fiscal-related	news→stock	0.15**	0.04	-0.12**	-0.14**	-0.10**
		stock→news	0.49**	0.49**	0.33**	0.20**	0.01
		reddit→stock	0.02	-0.08**	-0.19**	-0.24**	-0.25**
		stock→reddit	0.29**	0.32**	0.23**	0.23**	0.14**
	Opinion-based	news→stock	0.07	0.05*	-0.11**	-0.07**	0.05**
		stock→news	0.01	0.15**	-0.02	-0.10**	-0.03
		reddit→stock	0.14**	0.10**	0.04	-0.02	-0.06*
		stock→reddit	0.24**	0.18**	0.12**	0.12**	0.12**
SPY	Data-driven	news→stock	0.08**	-0.07**	-0.21**	-0.31**	-0.27**
		stock→news	0.42**	0.37**	0.26**	0.19**	0.13**
		reddit→stock	0.03	-0.04	-0.09**	-0.17**	-0.19**
		stock→reddit	0.14**	0.13**	0.11**	0.09**	0.06*
	Fiscal-related	news→stock	0.15**	0.04	-0.13**	-0.22**	-0.18**
		stock→news	0.52**	0.51**	0.39**	0.30**	0.20**
		reddit→stock	-0.00	-0.05	-0.05	-0.06	-0.01
		stock→reddit	0.07**	0.05	0.04	0.01	0.02
	Opinion-based	news→stock	-0.07**	0.13**	0.13**	0.03	0.01
		stock→news	-0.11**	-0.04	-0.13**	-0.03	0.03
		reddit→stock	-0.01	0.01	0.06	0.10*	0.12*
		stock→reddit	0.02*	0.05**	0.07**	0.01	-0.03

Note: * indicates p-value < 0.05, ** indicates p-value < 0.01. Coefficients without a star are not significant (p-value ≥ 0.05).

Table 9: P-value of the Granger Causality Test for each Sentiment Type

Stocks	Sentiment Type	Test	Lag 1	Lag 2	Lag 3	Lag 4	Lag 5
AAPL	Data-driven	f_k vs g_k^{news}	0.67	0.96	0.04*	0.05*	0.05*
		f_k vs g_k^{reddit}	0.78	0.97	0.98	0.97	0.97
	Fiscal-related	f_k vs g_k^{news}	0.35	0.33	0.47	0.46	0.31
		f_k vs g_k^{reddit}	0.36	0.82	0.92	0.72	0.74
	Opinion-based	f_k vs g_k^{news}	0.88	0.99	0.99	0.96	0.58
		f_k vs g_k^{reddit}	0.63	0.86	0.93	0.43	0.45
META	Data-driven	f_k vs g_k^{news}	0.17	0.33	0.14	0.09	0.12
		f_k vs g_k^{reddit}	0.04*	0.07	0.12	0.10	0.11
	Fiscal-related	f_k vs g_k^{news}	0.67	0.61	0.69	0.54	0.35
		f_k vs g_k^{reddit}	0.57	0.24	0.23	0.53	0.41
	Opinion-based	f_k vs g_k^{news}	0.61	0.89	0.97	0.30	0.44
		f_k vs g_k^{reddit}	0.48	0.27	0.51	0.65	0.63
NVDA	Data-driven	f_k vs g_k^{news}	0.17	0.49	0.28	0.78	0.60
		f_k vs g_k^{reddit}	0.53	0.85	0.65	0.82	0.89
	Fiscal-related	f_k vs g_k^{news}	0.04*	0.00**	0.01**	0.11	0.13
		f_k vs g_k^{reddit}	0.01*	0.07	0.13	0.29	0.33
	Opinion-based	f_k vs g_k^{news}	0.43	0.76	0.78	0.78	0.63
		f_k vs g_k^{reddit}	0.61	0.70	0.90	0.78	0.25
PLTR	Data-driven	f_k vs g_k^{news}	0.27	0.32	0.23	0.02*	0.01*
		f_k vs g_k^{reddit}	0.76	0.85	0.61	0.71	0.67
	Fiscal-related	f_k vs g_k^{news}	0.48	0.33	0.48	0.68	0.59
		f_k vs g_k^{reddit}	0.46	0.44	0.64	0.72	0.84
	Opinion-based	f_k vs g_k^{news}	0.96	0.67	0.68	0.61	0.80
		f_k vs g_k^{reddit}	0.05*	0.12	0.19	0.16	0.07
TSLA	Data-driven	f_k vs g_k^{news}	0.76	0.56	0.49	0.26	0.04*
		f_k vs g_k^{reddit}	0.97	0.74	0.35	0.34	0.19
	Fiscal-related	f_k vs g_k^{news}	0.49	0.86	0.35	0.10	0.01**
		f_k vs g_k^{reddit}	0.56	0.97	0.98	0.97	0.88
	Opinion-based	f_k vs g_k^{news}	0.02*	0.07	0.27	0.46	0.47
		f_k vs g_k^{reddit}	0.72	0.05*	0.05	0.14	0.21
SPY	Data-driven	f_k vs g_k^{news}	0.03*	0.06	0.02*	0.10	0.02*
		f_k vs g_k^{reddit}	0.78	0.76	0.38	0.33	0.35
	Fiscal-related	f_k vs g_k^{news}	0.05	0.50	0.08	0.65	0.17
		f_k vs g_k^{reddit}	0.62	0.80	0.87	0.86	0.86
	Opinion-based	f_k vs g_k^{news}	0.83	0.90	0.69	0.89	0.44
		f_k vs g_k^{reddit}	0.97	0.66	0.60	0.55	0.12

Note: * indicates p-value < 0.05, ** indicates p-value < 0.01. Coefficients without a star are not significant (p-value ≥ 0.05).