

FINA4359 - Final Project

Predicting Cryptocurrency Returns

Rajat Jain (3035453684)

Pranav Talwar (3035435462)

Naman Shah (3035437393)

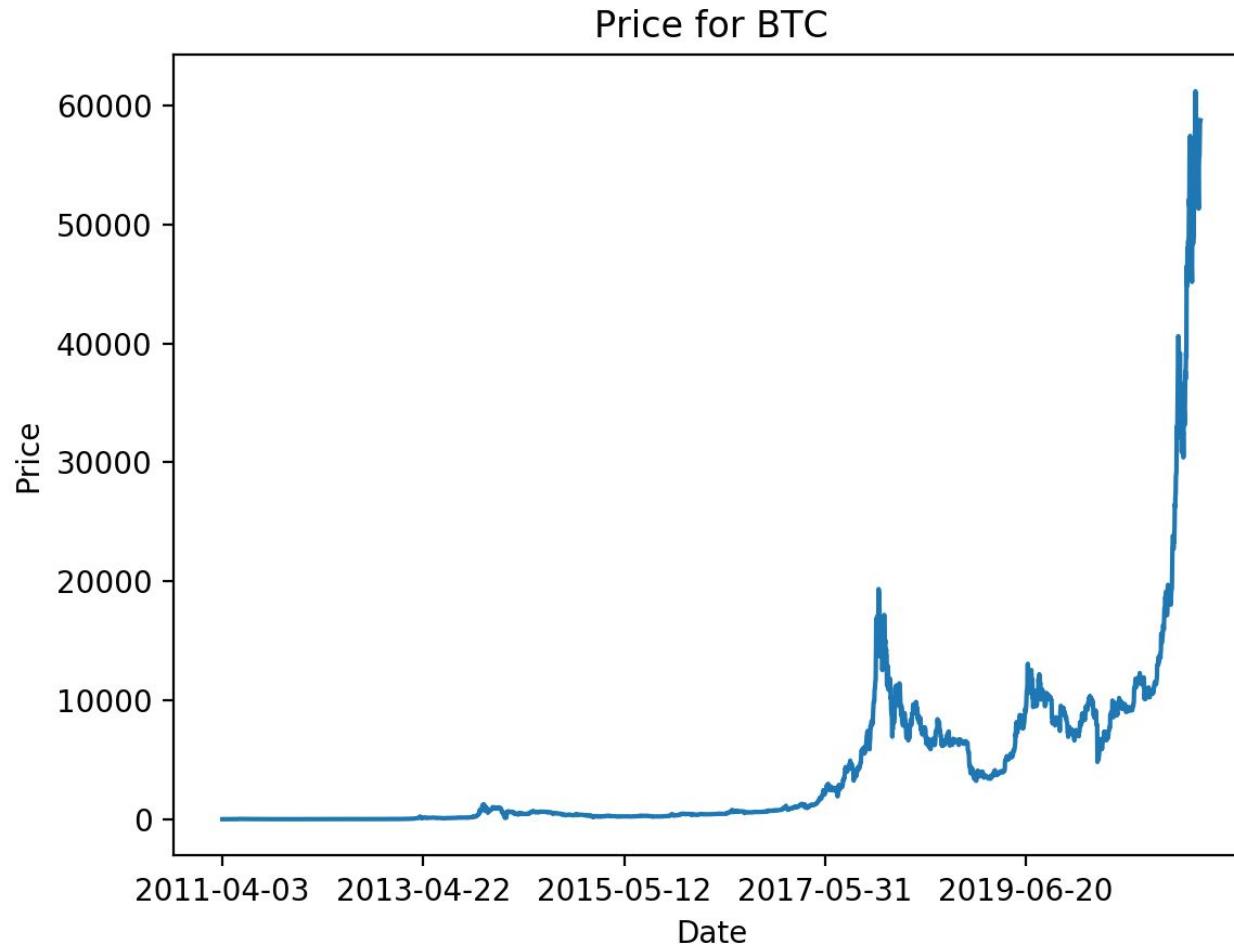
Cryptocurrencies Covered

1. Bitcoin
2. Ethereum
3. Dash
4. Ripple
5. Bitcoin Cash

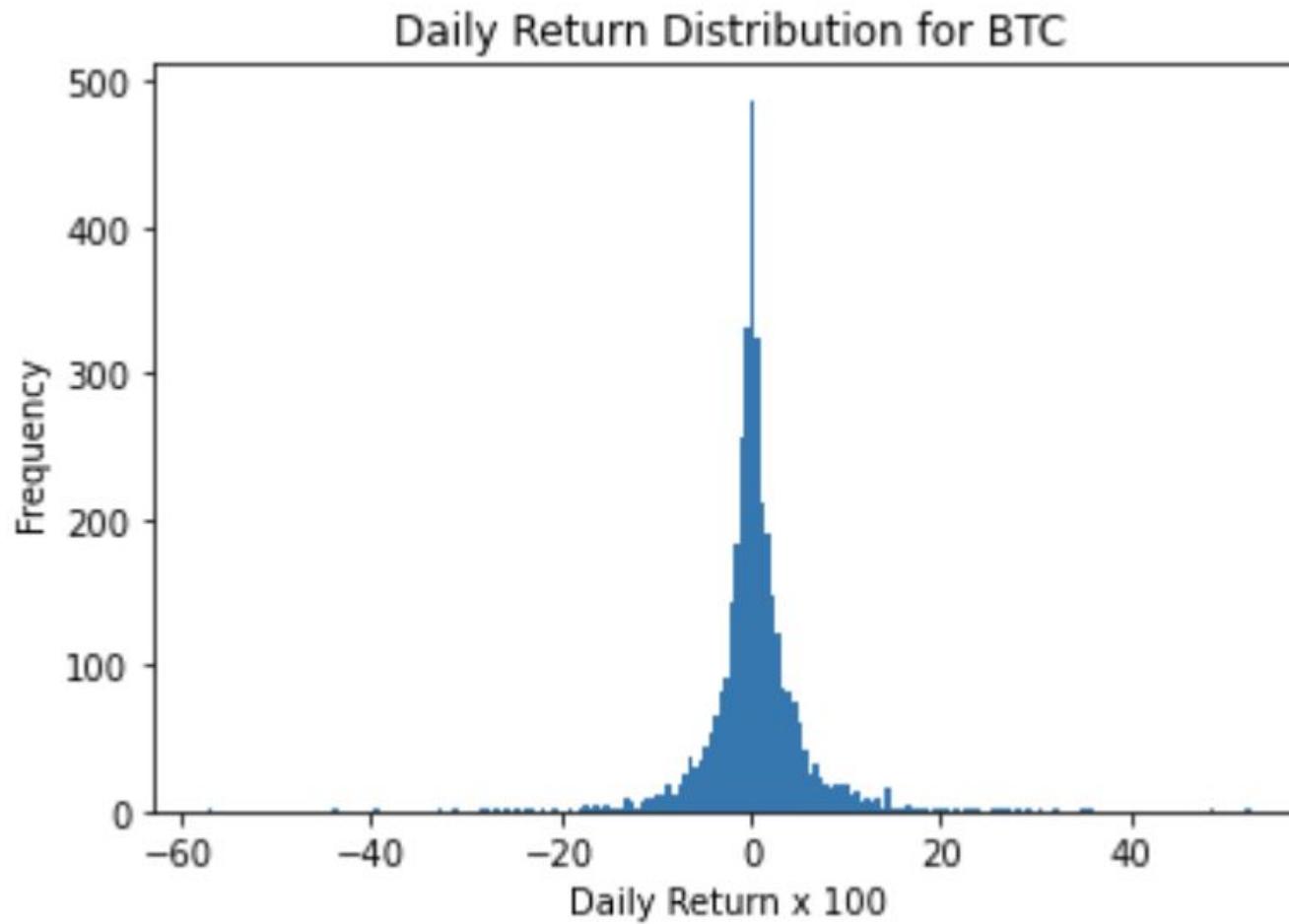
Areas of Discussion

- Price movement
- Daily, weekly and monthly returns distribution
- Time series momentum at daily and weekly level
- Predicting returns at weekly level using Google Investor Attention

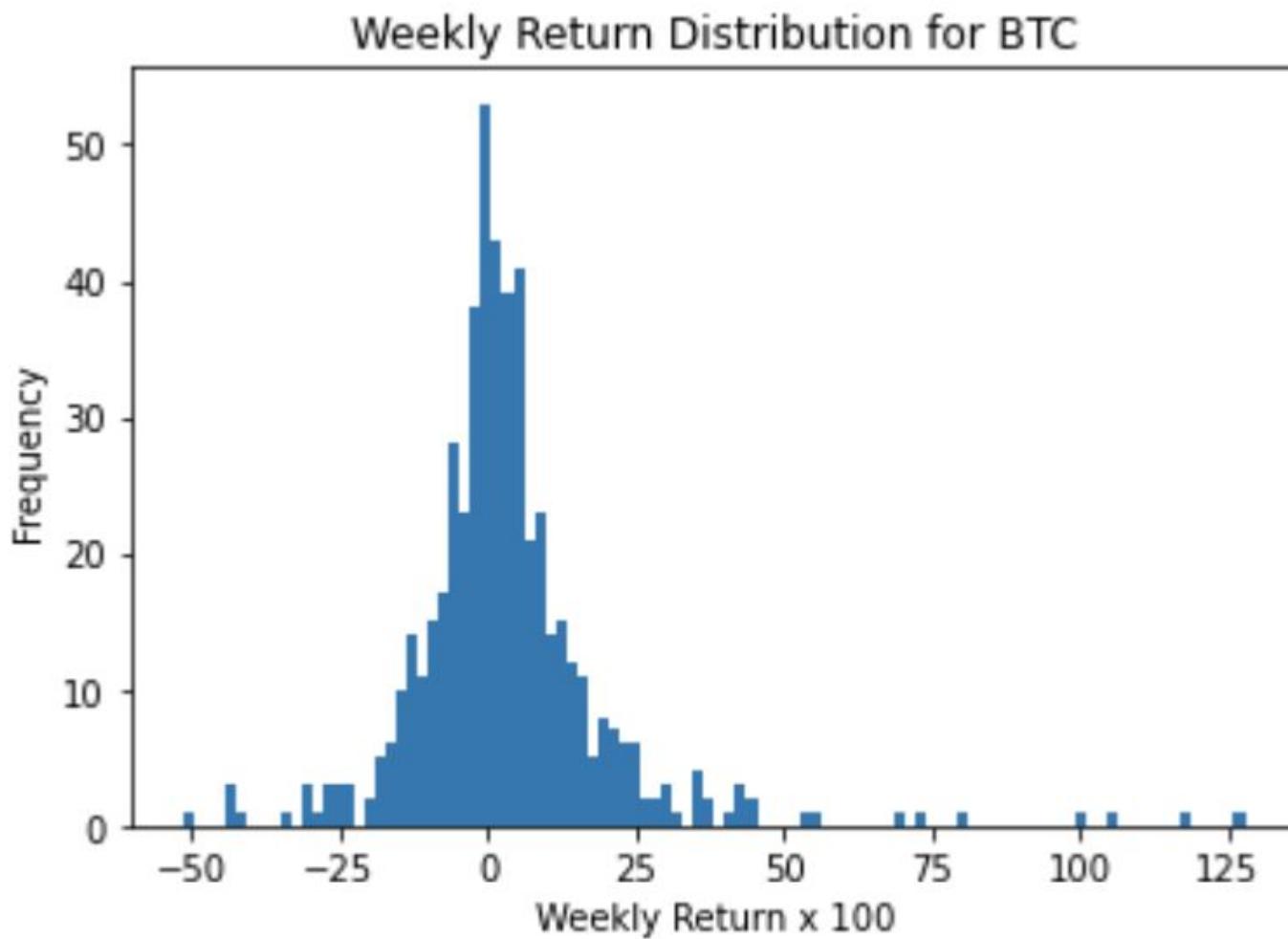
BTC Price Movement



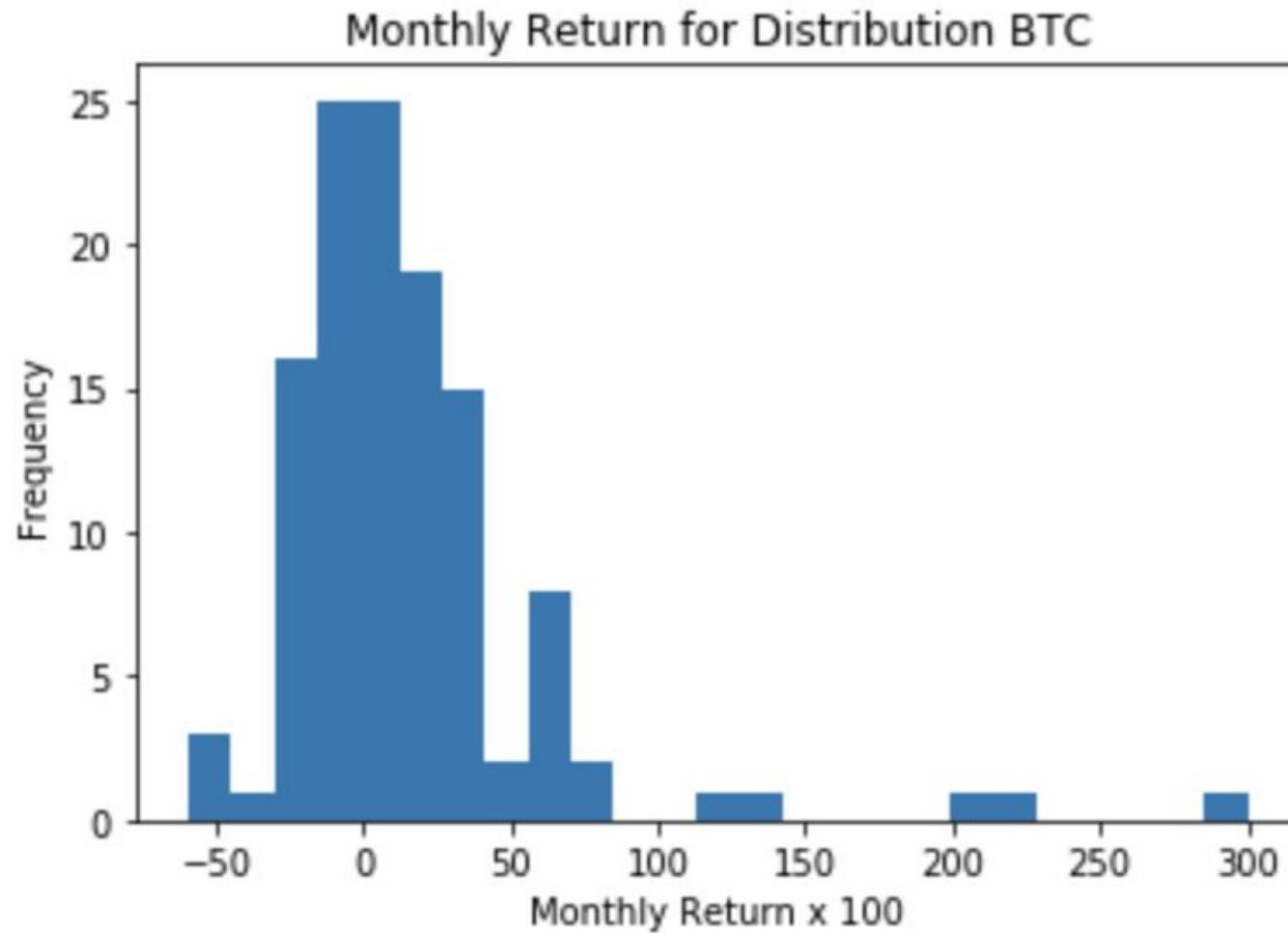
BTC Daily Returns Distribution



BTC Weekly Returns Distribution



BTC Monthly Returns Distribution



BTC Daily Momentum

	beta	t-statistic	p< t	r^2
rt_index				
1.0	-0.0005	-0.028	0.977	2.203671e-07
2.0	-0.1364	-8.319	0.000	1.862932e-02
3.0	0.0162	0.980	0.327	2.635949e-04
4.0	0.2141	13.223	0.000	4.584635e-02
5.0	0.0645	3.897	0.000	4.161680e-03
6.0	-0.0639	-3.859	0.000	4.087070e-03
7.0	-0.0421	-2.538	0.011	1.775412e-03

- The current return positively and statistically significantly predicts 4-day and 5-day ahead returns.
- One standard deviation increase in today's returns increases R_t by a factor of 0.21 and 0.06 respectively.

BTC Daily Momentum Cumulative Returns



- Y-axis unit is %

BTC Weekly Momentum

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	0.044	1.442	0.150	0.004000
2.0	0.043	3.333	0.001	0.021081
3.0	0.043	3.783	0.000	0.027145
4.0	0.042	-0.436	0.663	0.000373

- The current week's return positively and statistically significantly predicts 2-week and 3-week ahead returns.
- One standard deviation increase in this week's returns increases R_t by a factor of 0.043 and 0.043 respectively.

BTC Weekly Momentum by Quintile

		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
1.0	-52.111111	4.617980	-3.011	0.003	0.080908
	-5.725089	-1.233129	-0.191	0.849	0.000362
	-0.291159	3.413763	1.069	0.288	0.011077
	3.968903	2.709095	1.572	0.119	0.023660
	10.731717	7.702591	0.689	0.492	0.004633
2.0	-52.111111	2.732634	-1.635	0.105	0.025288
	-5.725089	2.021230	0.376	0.708	0.001409
	-0.291159	2.179881	0.513	0.609	0.002575
	3.968903	2.202758	0.454	0.651	0.002017
	10.731717	7.730564	2.700	0.008	0.066705

		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
3.0	-52.111111	2.389832	-0.552	0.582	0.002953
	-5.725089	-0.132091	1.567	0.120	0.023973
	-0.291159	3.638390	-1.174	0.243	0.013327
	3.968903	3.538816	0.892	0.375	0.007732
	10.731717	6.786182	2.589	0.011	0.062223
4.0	-52.111111	1.044098	-0.840	0.403	0.006801
	-5.725089	3.781162	-0.045	0.965	0.000020
	-0.291159	4.411719	1.697	0.093	0.027460
	3.968903	2.452107	0.981	0.329	0.009447
	10.731717	3.595031	-1.470	0.145	0.020951

We find that the top quintiles outperform the bottom quintiles at 1-4 week ahead horizons. For example, at the 1-week horizon, the average return of the top quintile is 7.7 percent per week while the average return of the bottom quintile is 4.6 percent per week.

BTC Weekly Momentum Cumulative Returns



BTC Weekly Google Investor Attention

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	0.0174	0.346	0.730	0.000231
2.0	-0.0317	-0.628	0.530	0.000764
3.0	-0.0597	-1.175	0.240	0.002685
4.0	-0.0489	-0.980	0.328	0.001882
5.0	-0.0737	-1.431	0.153	0.004046
6.0	-0.0883	-1.777	0.076	0.006304
7.0	-0.1134	-2.276	0.023	0.010441

- The current week's Google trends statistically significantly predicts 7-week ahead negative returns.
- One standard deviation increase in this week's returns decreases R_t by a factor of 0.1134..

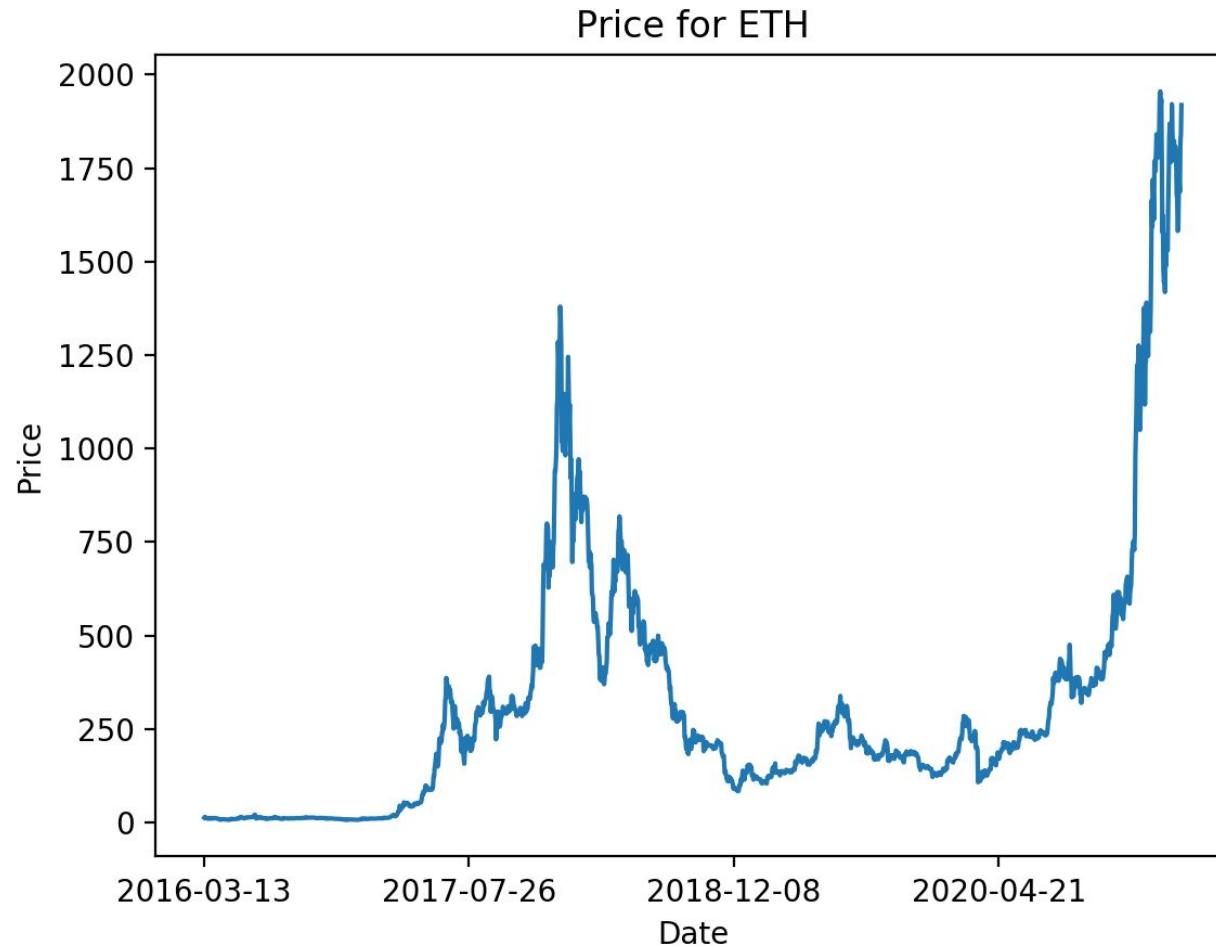
BTC Weekly Google Investor Attention by Quintile

		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
1.0	-52.111111	4.617980	1.016	0.312	0.009931
	-5.725089	-1.233129	-0.864	0.390	0.007329
	-0.291159	3.413763	-1.958	0.053	0.036214
	3.968903	2.709095	0.075	0.940	0.000056
	10.731717	7.702591	-0.832	0.407	0.006746
2.0	-52.111111	2.732634	0.644	0.521	0.004011
	-5.725089	2.021230	-2.786	0.006	0.072036
	-0.291159	2.179881	0.480	0.632	0.002251
	3.968903	2.202758	-1.926	0.057	0.035085
	10.731717	7.730564	-1.408	0.162	0.019077

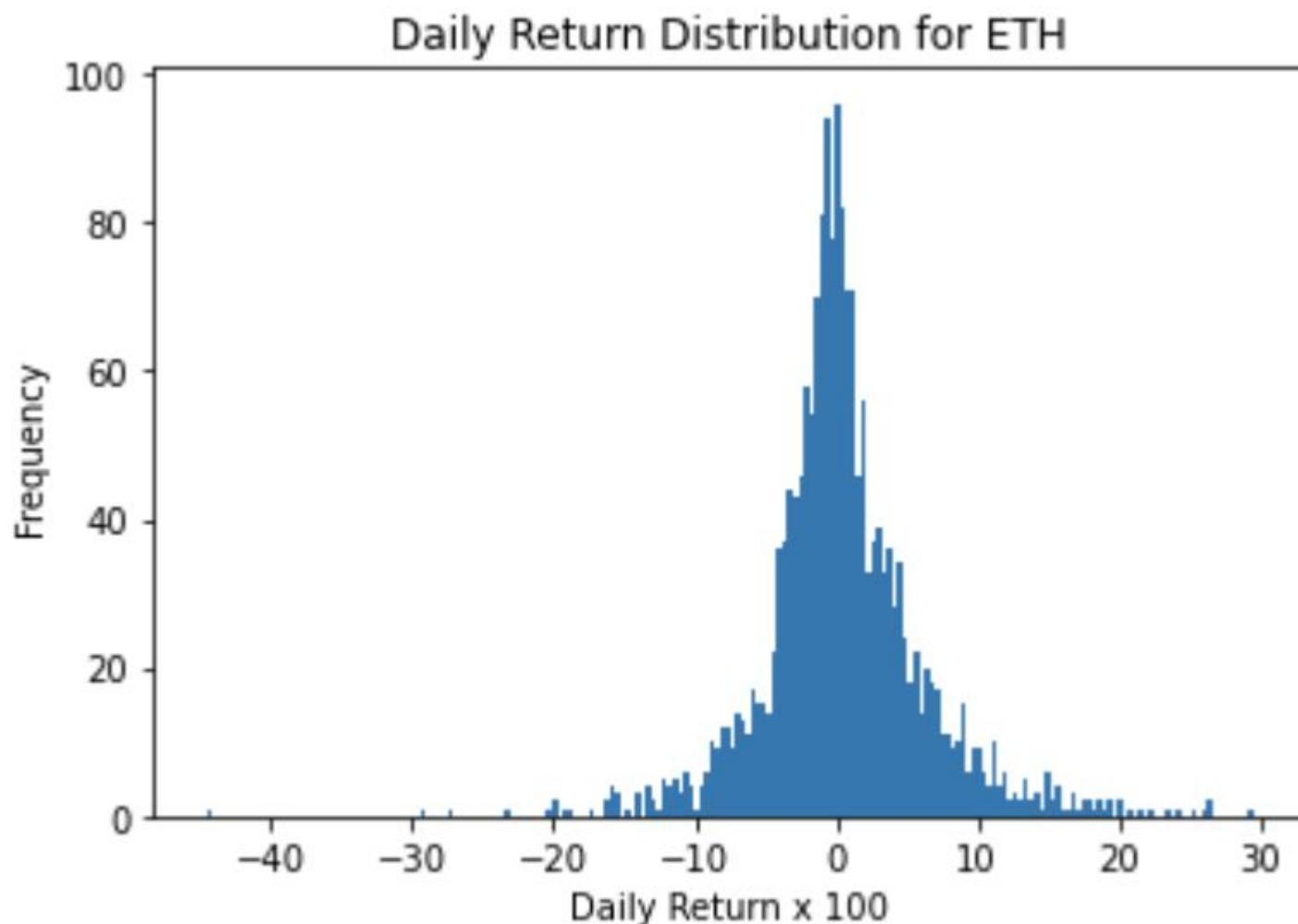
		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
3.0	-52.111111	2.389832	0.179	0.858	0.000311
	-5.725089	-0.132091	-1.088	0.279	0.011688
	-0.291159	3.638390	-1.250	0.214	0.015078
	3.968903	3.538816	-3.260	0.002	0.094372
	10.731717	6.786182	-0.753	0.453	0.005578
4.0	-52.111111	1.044098	0.398	0.692	0.001534
	-5.725089	3.781162	2.909	0.004	0.078028
	-0.291159	4.411719	-0.905	0.368	0.007966
	3.968903	2.452107	-3.445	0.001	0.105151
	10.731717	3.595031	-0.661	0.510	0.004304

We find that the top quintiles outperform the bottom quintiles at 1-4 week ahead horizons. For example, at the 1-week horizon, the average return of the top quintile is 7.7 percent per week while the average return of the bottom quintile is 4.6 percent per week.

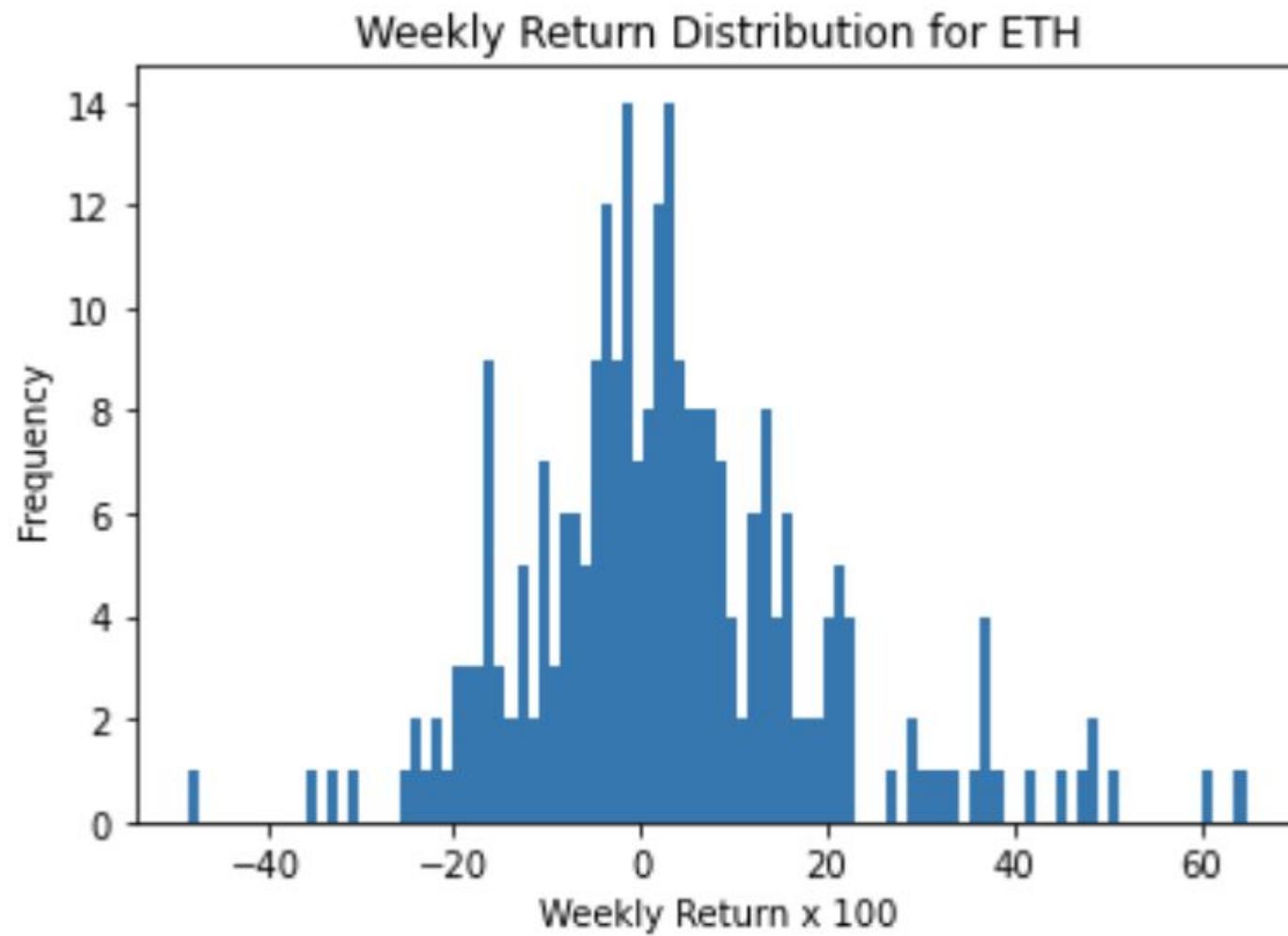
ETH Price Movement



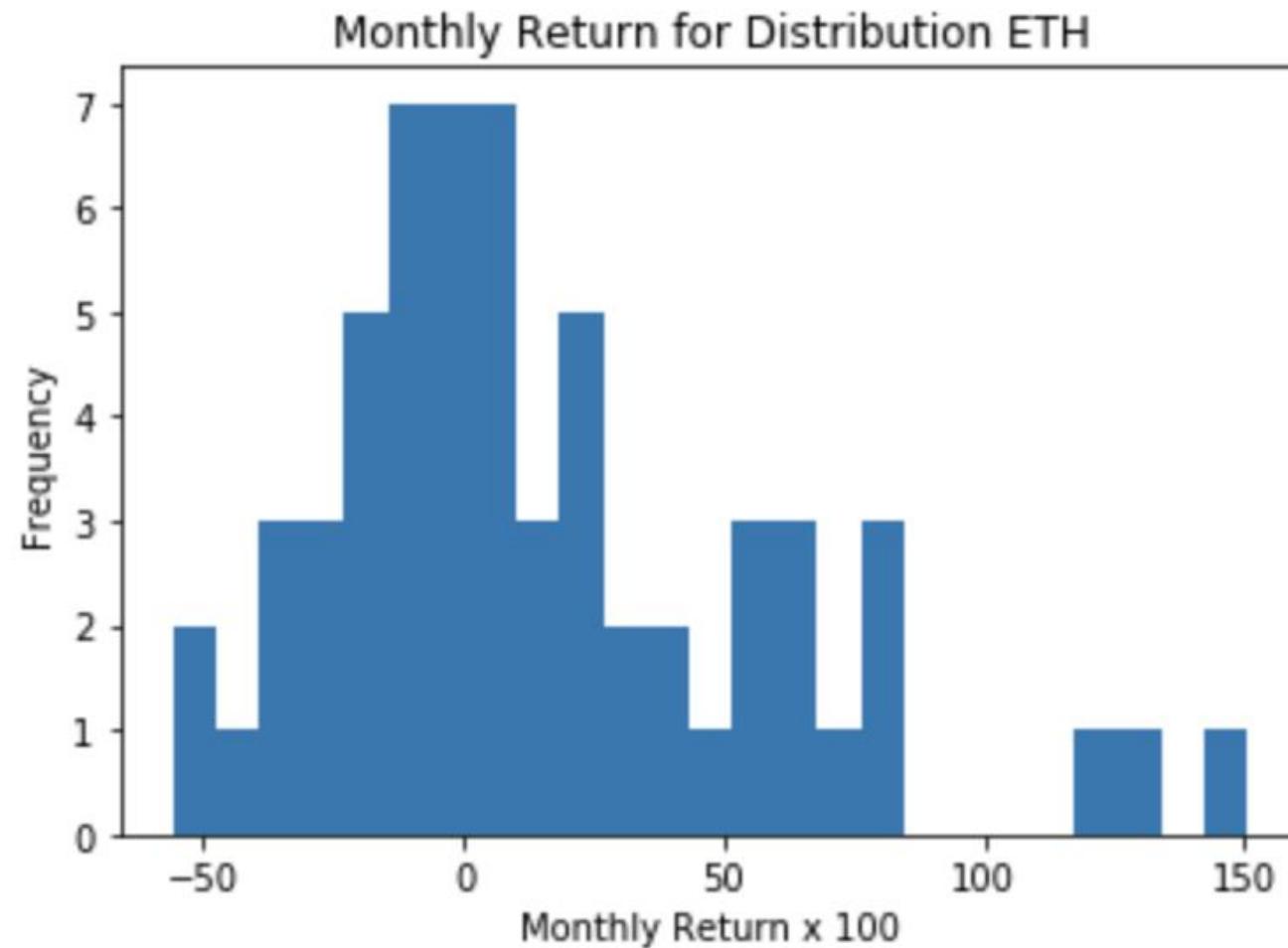
ETH Daily Returns



ETH Weekly Returns



ETH Monthly Returns



ETH Daily Momentum

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	-0.0352	-1.515	0.130	0.001245
2.0	0.0585	2.522	0.012	0.003445
3.0	0.0210	0.903	0.367	0.000444
4.0	-0.0048	-0.204	0.838	0.000023
5.0	0.0448	1.929	0.054	0.002031
6.0	0.0375	1.611	0.107	0.001423
7.0	-0.0134	-0.576	0.565	0.000182

- The current return positively and statistically significantly predicts 2-day returns.
- One standard deviation increase in today's returns increases R_t by a factor of 0.0585.

ETH Daily Momentum Cumulative Returns



ETH Weekly Momentum

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	0.061	2.294	0.023	0.019836
2.0	0.062	1.814	0.071	0.012590
3.0	0.062	2.074	0.039	0.016587
4.0	0.063	-0.803	0.423	0.002562

- The current week's return positively and statistically significantly predicts 1-week and 3-week ahead returns.
- One standard deviation increase in this week's returns increases 1-week and 3-week ahead returns by a factor of 0.061 and 0.062 respectively.

ETH Weekly Momentum by Quintile

		average_ret	t-statistic	p< t 	r^2
rt_index	quintile_index				
1.0	-49.305942	1.288330	-1.570	0.123	0.046100
	-8.035901	1.962463	-1.332	0.189	0.034951
	-1.475450	1.573848	-0.472	0.639	0.004356
	4.423877	3.167704	0.428	0.670	0.003655
	12.999222	7.773373	1.245	0.219	0.029514
2.0	-49.305942	-1.549997	0.167	0.868	0.000545
	-8.035901	6.563444	-0.249	0.804	0.001294
	-1.475450	0.788288	-0.420	0.676	0.003451
	4.423877	4.701630	0.055	0.956	0.000060
	12.999222	5.520795	0.033	0.974	0.000021

		average_ret	t-statistic	p< t 	r^2
rt_index	quintile_index				
3.0	-49.305942	-1.589211	-0.492	0.624	0.004733
	-8.035901	5.910499	-0.353	0.726	0.002589
	-1.475450	2.955055	0.789	0.434	0.012068
	4.423877	3.333685	-0.202	0.840	0.000819
	12.999222	5.334632	1.244	0.219	0.030011
4.0	-49.305942	3.544171	-1.661	0.103	0.051306
	-8.035901	4.855492	-1.114	0.271	0.025203
	-1.475450	2.165651	-1.107	0.274	0.023461
	4.423877	5.966716	0.347	0.730	0.002397
	12.999222	-0.309973	2.131	0.038	0.084793

We find that the top quintiles outperform the bottom quintiles at 1-3 week ahead horizons. For example, at the 1-week horizon, the average return of the top quintile is 7.77 percent per week while the average return of the bottom quintile is 1.288 percent per week.

ETH Weekly Momentum Cumulative Returns



ETH Weekly Google Investor Attention

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	0.0514	0.945	0.345	0.003426
2.0	0.0389	0.695	0.487	0.001871
3.0	0.0406	0.668	0.505	0.001745
4.0	0.0193	0.280	0.780	0.000311
5.0	0.0179	0.226	0.822	0.000207
6.0	-0.0707	-0.908	0.365	0.003422
7.0	-0.1344	-1.714	0.088	0.012456

- The current week's google trends cannot predict ahead returns statistically significantly.

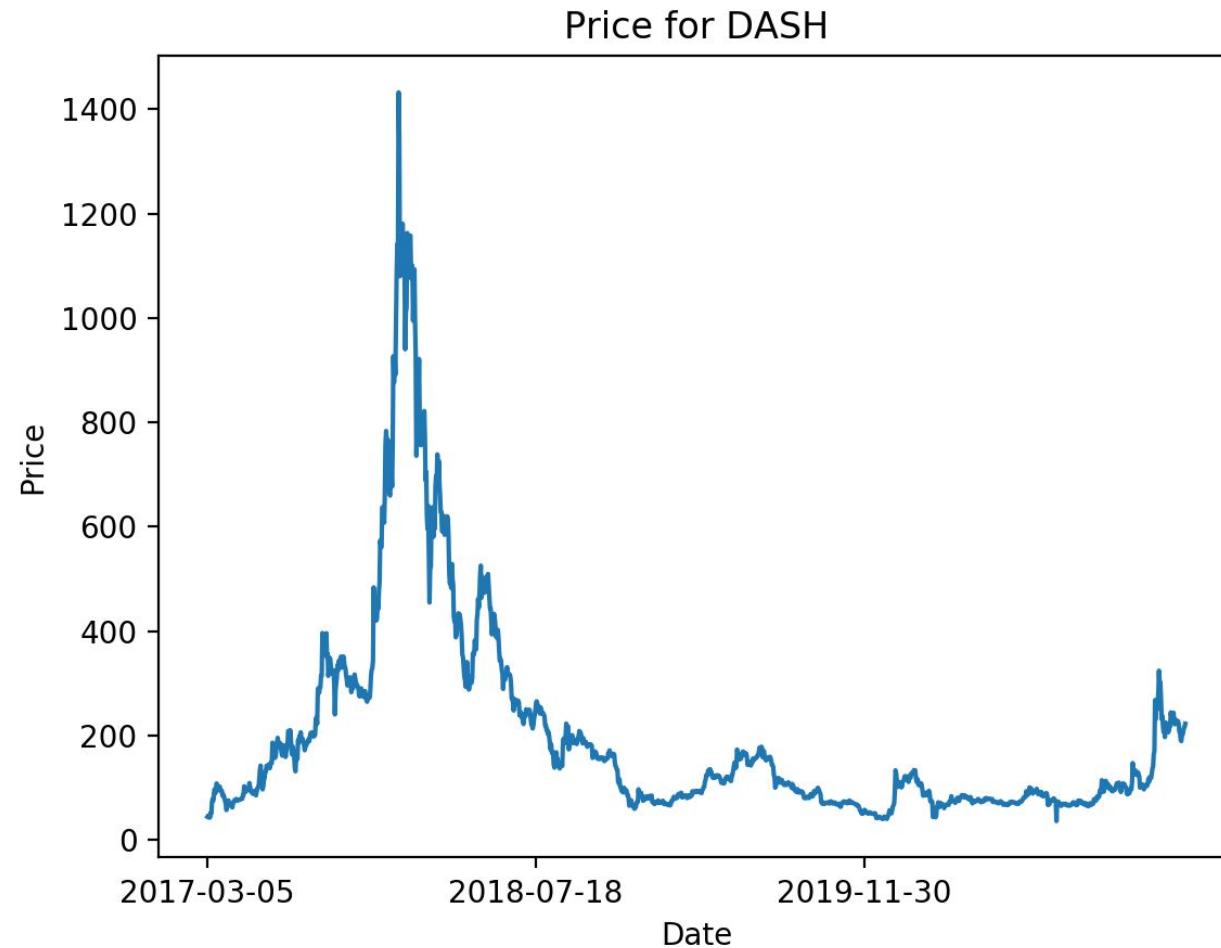
ETH Weekly Google Investor Attention by Quintile

		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
1.0	-49.305942	1.288330	0.342	0.734	0.002290
	-8.035901	1.962463	-0.564	0.576	0.006442
	-1.475450	1.573848	3.309	0.002	0.176741
	4.423877	3.167704	-0.865	0.391	0.014754
	12.999222	7.773373	0.111	0.912	0.000244
2.0	-49.305942	-1.549997	-0.112	0.911	0.000248
	-8.035901	6.563444	3.033	0.004	0.160836
	-1.475450	0.788288	1.564	0.124	0.045782
	4.423877	4.701630	-1.070	0.290	0.022380
	12.999222	5.520795	-0.947	0.348	0.017280

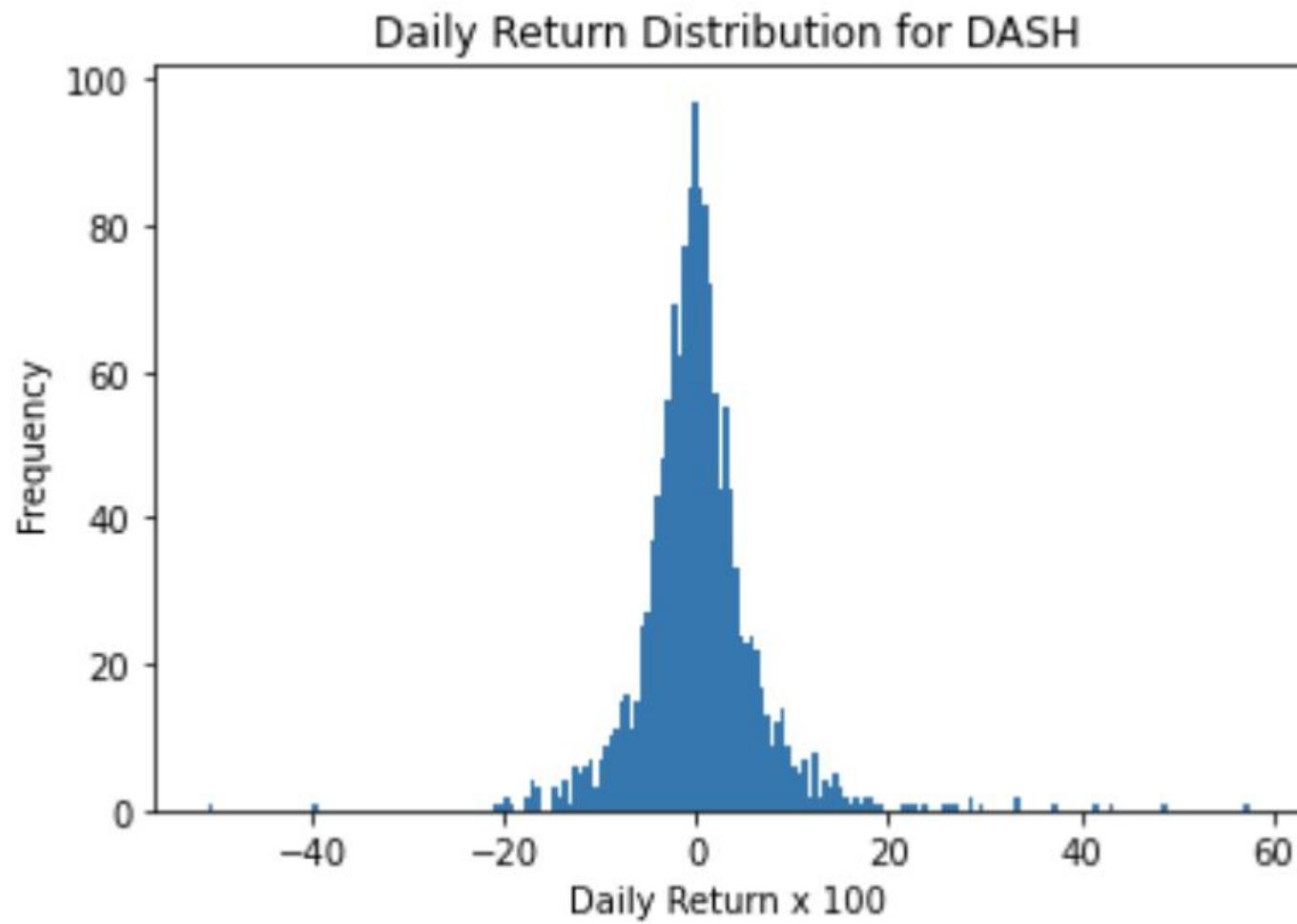
		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
3.0	-49.305942	-1.589211	-0.145	0.885	0.000413
	-8.035901	5.910499	1.688	0.098	0.056011
	-1.475450	2.955055	-0.165	0.869	0.000536
	4.423877	3.333685	0.364	0.717	0.002648
	12.999222	5.334632	-0.229	0.820	0.001048
4.0	-49.305942	3.544171	0.237	0.813	0.001103
	-8.035901	4.855492	-0.480	0.633	0.004783
	-1.475450	2.165651	1.640	0.107	0.050122
	4.423877	5.966716	-1.312	0.195	0.033299
	12.999222	-0.309973	1.381	0.174	0.037440

We find that the top quintiles outperform the bottom quintiles at 1-3 week ahead horizons. For example, at the 1-week horizon, the average return of the top quintile is 7.77 percent per week while the average return of the bottom quintile is 1.28 percent per week.

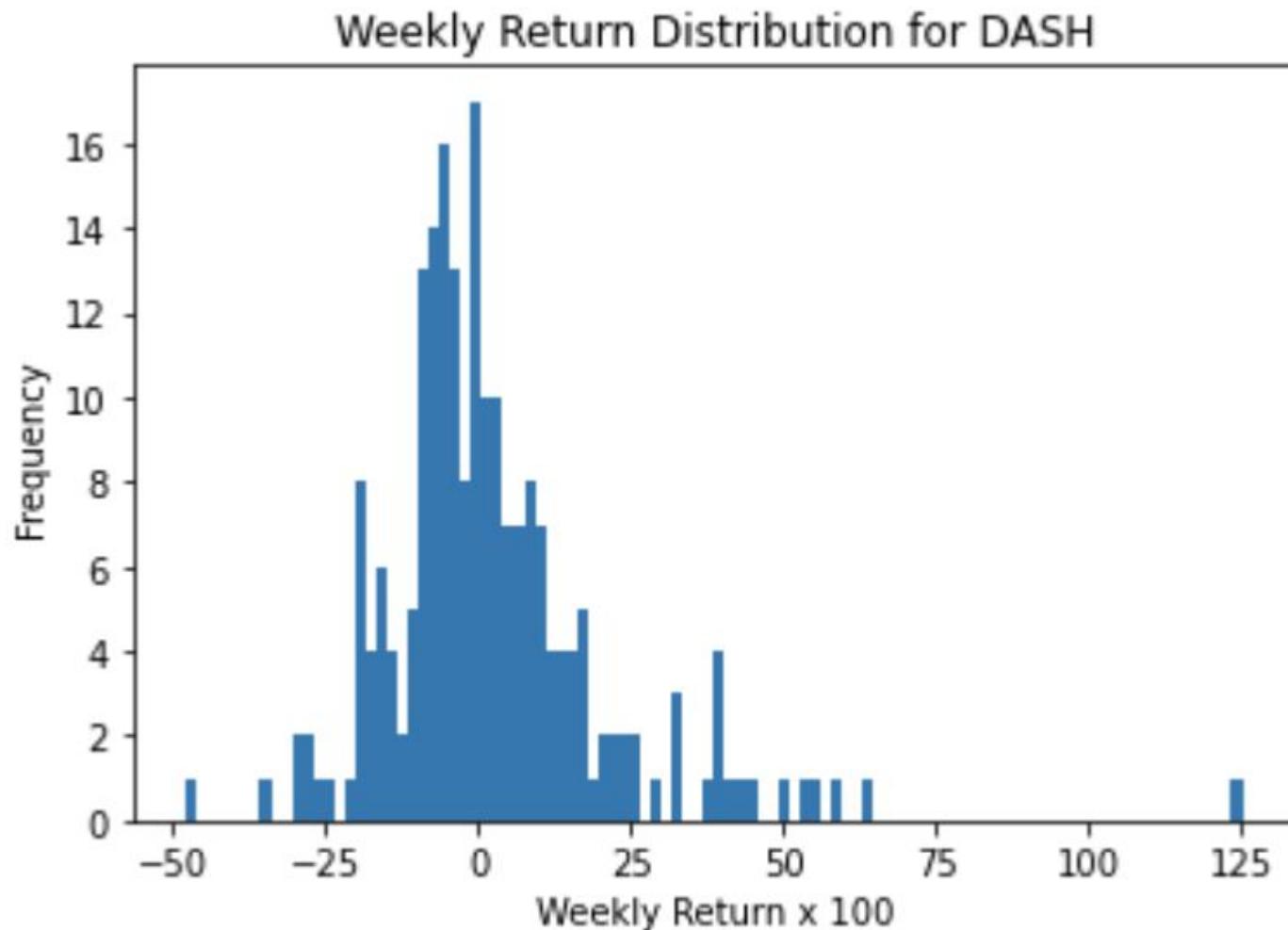
DASH Price Movement



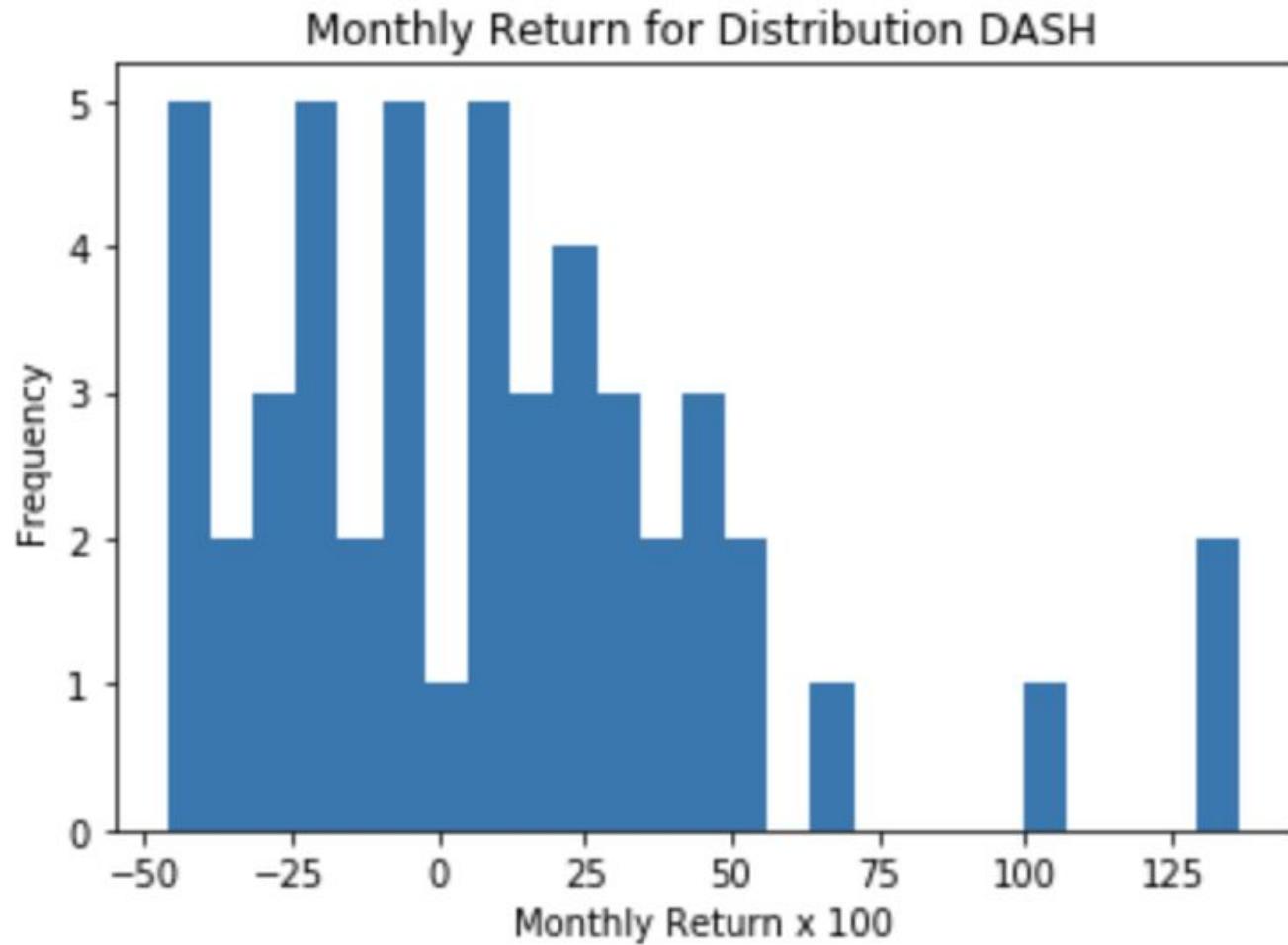
DASH Daily Returns



DASH Weekly Returns



DASH Monthly Returns



DASH Daily Momentum

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	-0.1088	-4.218	0.000	1.184153e-02
2.0	0.0323	1.244	0.214	1.041648e-03
3.0	0.0190	0.733	0.464	3.624428e-04
4.0	0.0080	0.308	0.758	6.440786e-05
5.0	0.0528	2.037	0.042	2.813720e-03
6.0	-0.0061	-0.235	0.814	3.780539e-05
7.0	0.0006	0.022	0.983	3.188544e-07

- The current return positively and statistically significantly predicts 5-day returns.
- One standard deviation increase in today's returns increases R_t by a factor of 0.0528.

DASH Daily Momentum Cumulative Returns



DASH Weekly Momentum

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	0.067	1.134	0.258	0.006112
2.0	0.067	-0.186	0.853	0.000167
3.0	0.067	-0.400	0.690	0.000784
4.0	0.075	-0.554	0.580	0.001532

- The current week's returns cannot predict ahead returns statistically significantly.

DASH Weekly Momentum by Quintile

		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
1.0	-48.827567	1.168322	-2.967	0.005	1.803930e-01
	-9.211302	0.542749	-0.835	0.408	1.714935e-02
	-4.470307	0.831149	-0.004	0.997	3.238354e-07
	1.795526	0.320981	1.271	0.211	3.879314e-02
	11.641494	6.903236	0.231	0.818	1.304244e-03
2.0	-48.827567	-2.593652	-0.664	0.511	1.088935e-02
	-9.211302	1.630488	-0.251	0.804	1.606493e-03
	-4.470307	4.834116	0.783	0.438	1.509778e-02
	1.795526	3.879806	0.160	0.874	6.368844e-04
	11.641494	1.007378	-1.602	0.117	5.888290e-02

		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
3.0	-48.827567	5.328100	0.892	0.378	1.949693e-02
	-9.211302	-1.581901	0.581	0.565	8.583456e-03
	-4.470307	4.217816	-0.097	0.923	2.350813e-04
	1.795526	0.476894	1.289	0.205	3.985968e-02
	11.641494	0.590395	0.297	0.768	2.204344e-03
4.0	-48.827567	4.960933	-0.578	0.566	8.289979e-03
	-9.211302	3.199777	-0.035	0.973	3.067048e-05
	-4.470307	0.971201	1.795	0.080	7.635064e-02
	1.795526	-1.398038	2.185	0.035	1.066308e-01
	11.641494	2.071371	0.771	0.445	1.465062e-02

We find that the top quintiles outperform the bottom quintiles at 1-2 and 4 week ahead horizons. For example, at the 1-week horizon, the average return of the top quintile is 6.90 percent per week while the average return of the bottom quintile is 1.18 percent per week.

DASH Weekly Google Investor Attention

	beta	t-statistic	p< t	r^2
rt_index				
1.0	0.0297	0.320	0.750	0.000489
2.0	0.0626	0.678	0.499	0.002213
3.0	0.0284	0.291	0.771	0.000415
4.0	0.0411	0.418	0.677	0.000871
5.0	-0.0395	-0.448	0.655	0.001026
6.0	-0.0871	-0.985	0.326	0.005108
7.0	-0.0968	-1.082	0.281	0.006396

- The current week's Google trends statistically significantly do not predict any ahead returns.

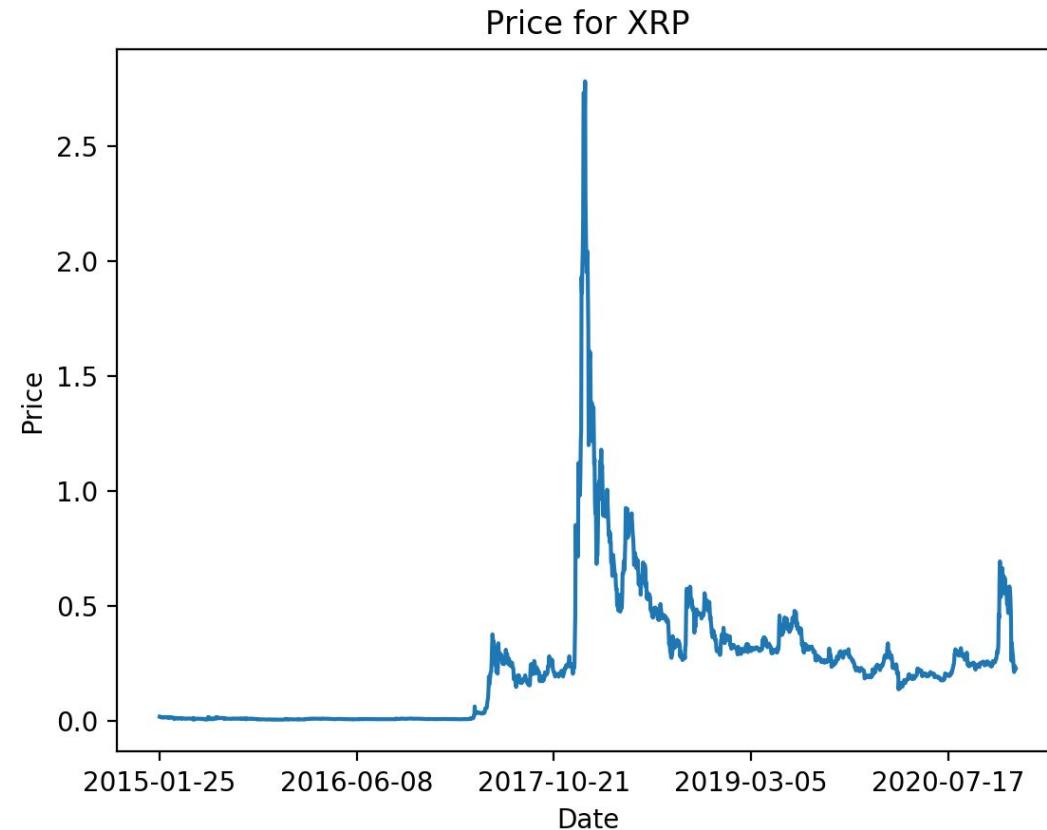
DASH Google Investor Weekly Momentum by Quintile

		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
1.0	-48.827567	1.168322	0.342	0.734	0.002909
	-9.211302	0.542749	0.699	0.489	0.012058
	-4.470307	0.831149	1.719	0.093	0.068764
	1.795526	0.320981	-1.512	0.138	0.054070
	11.641494	6.903236	-0.514	0.610	0.006412
2.0	-48.827567	-2.593652	0.197	0.845	0.000971
	-9.211302	1.630488	-0.298	0.767	0.002279
	-4.470307	4.834116	2.578	0.014	0.142486
	1.795526	3.879806	-0.118	0.907	0.000348
	11.641494	1.007378	0.568	0.573	0.007802

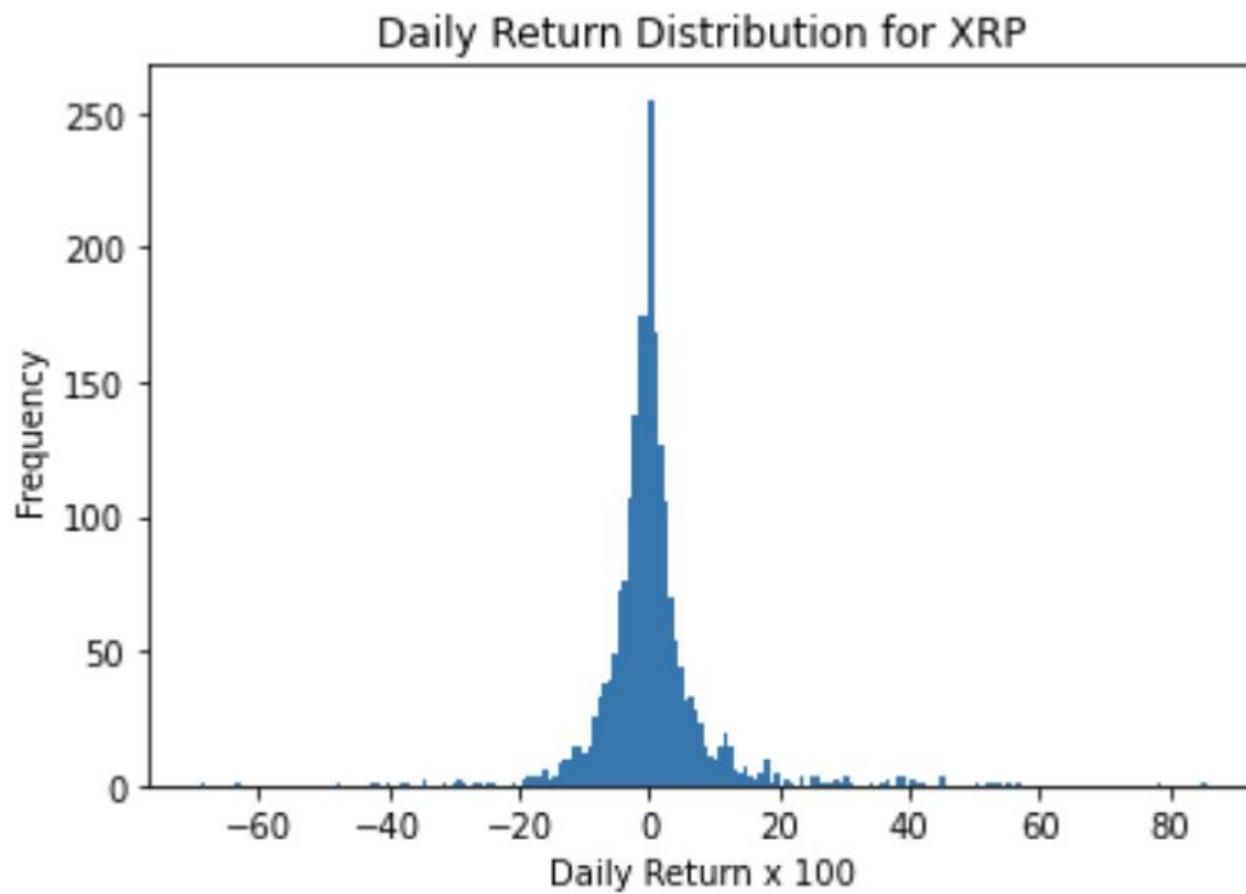
		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
3.0	-48.827567	5.328100	-0.151	0.880	0.000573
	-9.211302	-1.581901	-1.608	0.116	0.062177
	-4.470307	4.217816	-0.733	0.468	0.013246
	1.795526	0.476894	1.440	0.158	0.049257
	11.641494	0.590395	1.165	0.251	0.032805
4.0	-48.827567	4.960933	-1.124	0.268	0.030643
	-9.211302	3.199777	1.235	0.224	0.037660
	-4.470307	0.971201	1.933	0.060	0.087449
	1.795526	-1.398038	-0.485	0.630	0.005852
	11.641494	2.071371	0.030	0.976	0.000023

- We find that the top quintiles outperform the bottom quintiles at 1-2 week ahead horizons. For example, at the 1-week horizon, the average return of the top quintile is 6.90 percent per week while the average return of the bottom quintile is 1.16 percent per week.

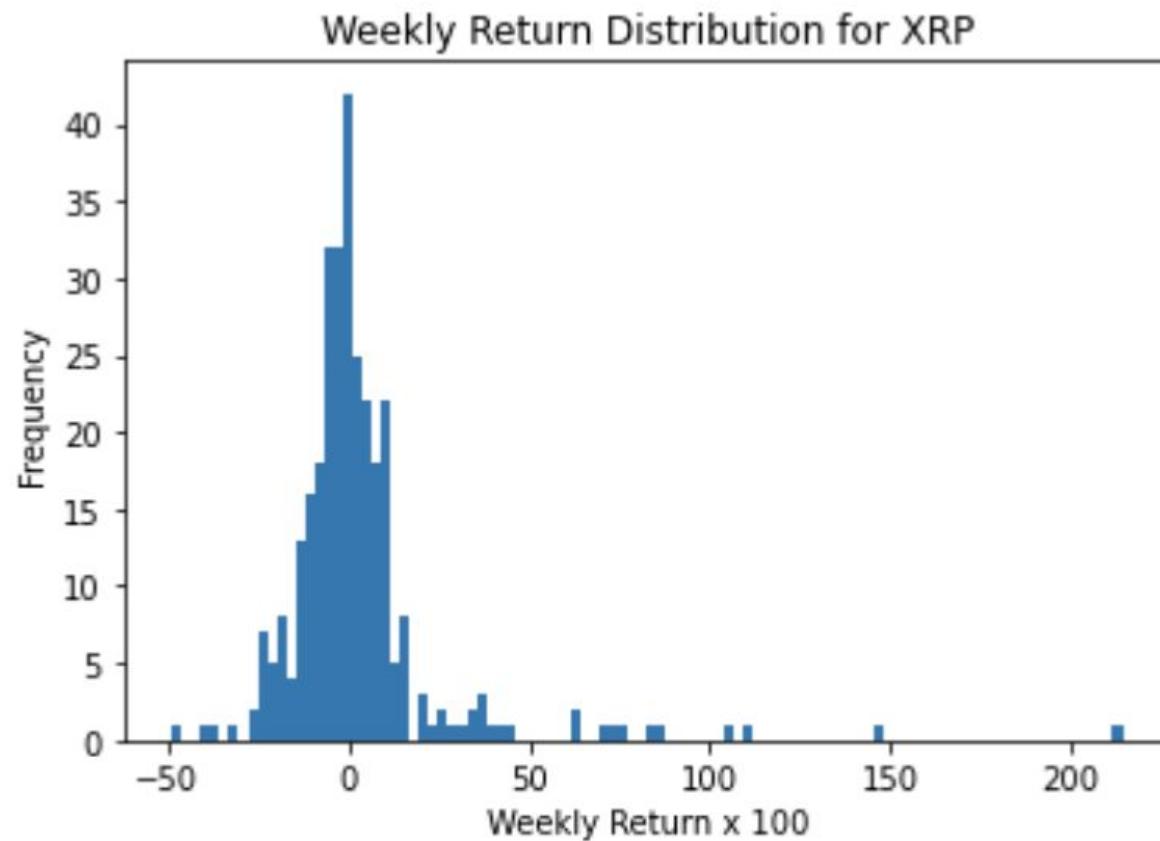
XRP Price Movement



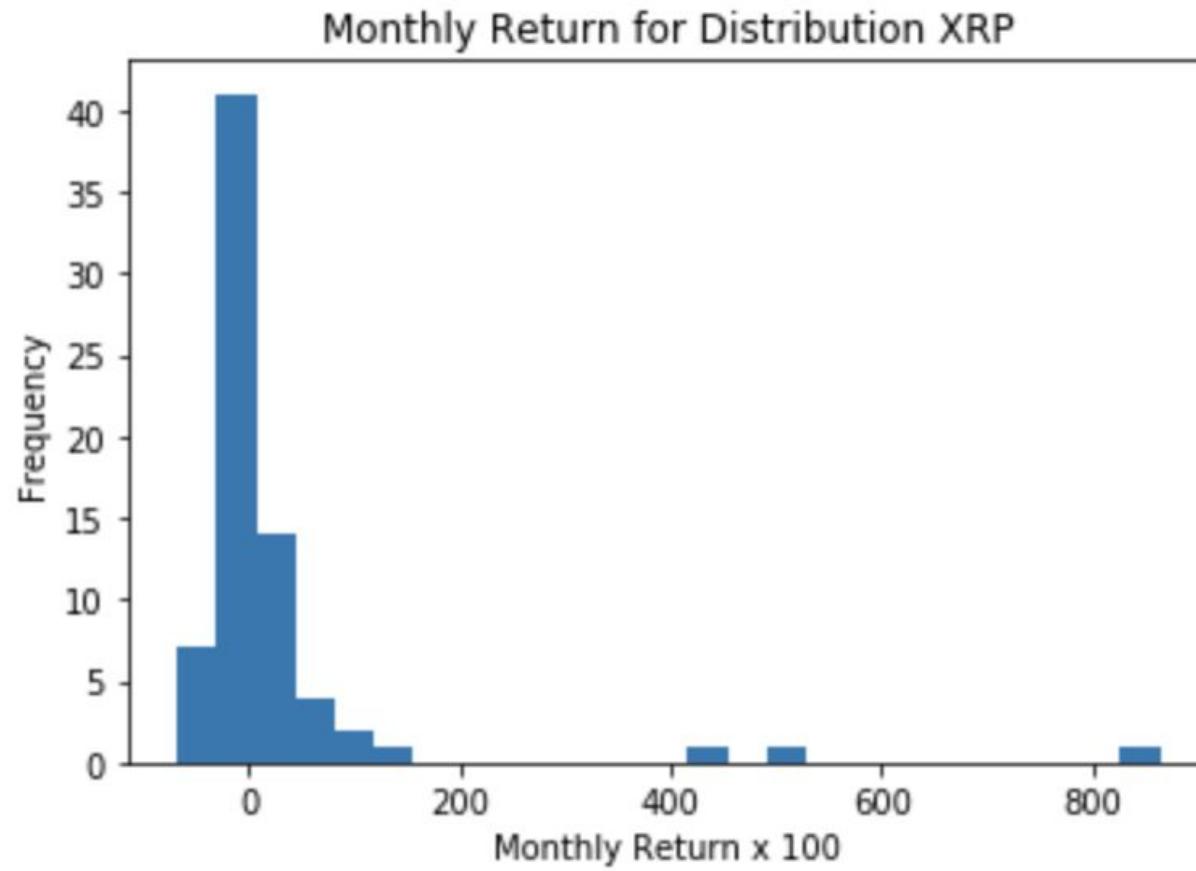
XRP Daily Returns



XRP Weekly Returns



XRP Monthly Returns



XRP Daily Momentum

	beta	t-statistic	p< t	r^2
rt_index				
1.0	-0.2090	-9.952	0.000	0.043688
2.0	0.1283	6.024	0.000	0.016478
3.0	0.0179	0.831	0.406	0.000319
4.0	0.0163	0.758	0.448	0.000266
5.0	0.0411	1.897	0.058	0.001668
6.0	-0.0113	-0.524	0.600	0.000128
7.0	0.0673	3.122	0.002	0.004532

- The current return positively and statistically significantly predicts 2-day and 7-day returns.
- One standard deviation increase in today's returns increases R_t by a factor of 0.1283 and 0.0673 respectively.

XRP Daily Momentum Cumulative Returns



XRP Weekly Momentum

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	0.055	4.536	0.000	0.062808
2.0	0.057	2.478	0.014	0.019736
3.0	0.058	0.791	0.429	0.002070
4.0	0.059	0.565	0.572	0.001070

- The current week's return positively and statistically significantly predicts 1-week and 2-week ahead returns.
- One standard deviation increase in this week's returns increases R_t by a factor of 0.055 and 0.057 respectively.

XRP Weekly Momentum by Quintile

		average_ret	t-statistic	p< t 	r^2
rt_index	quintile_index				
1.0	-49.906616	1.926816	0.724	0.472	0.008810
	-8.700225	2.820618	1.392	0.169	0.031286
	-3.025906	0.082752	1.953	0.055	0.059783
	1.347004	0.620287	1.560	0.124	0.039003
	9.018649	8.633714	3.267	0.002	0.151060
2.0	-49.906616	-0.951160	0.080	0.936	0.000111
	-8.700225	4.939754	-0.396	0.693	0.002608
	-3.025906	2.538488	-1.560	0.124	0.038958
	1.347004	0.156979	-1.304	0.197	0.027574
	9.018649	7.371722	1.436	0.156	0.033208

		average_ret	t-statistic	p< t 	r^2
rt_index	quintile_index				
3.0	-49.906616	-1.103456	-1.204	0.234	0.024367
	-8.700225	3.761153	0.453	0.652	0.003408
	-3.025906	2.913399	0.692	0.491	0.007929
	1.347004	3.218789	0.146	0.885	0.000354
	9.018649	5.646510	0.023	0.982	0.000009
4.0	-49.906616	-1.117872	-0.851	0.398	0.012558
	-8.700225	4.787856	-0.200	0.842	0.000664
	-3.025906	3.292729	-0.344	0.732	0.001965
	1.347004	5.131860	1.033	0.306	0.017462
	9.018649	2.122674	0.240	0.811	0.000979

- We find that the top quintiles outperform the bottom quintiles at 1-4 week ahead horizons. For example, at the 1-week horizon, the average return of the top quintile is 8.63 percent per week while the average return of the bottom quintile is 1.92 percent per week.

XRP Weekly Momentum Cumulative Returns



XRP Weekly Google Investor Attention

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	0.1398	0.985	0.326	0.003149
2.0	-0.0034	-0.024	0.981	0.000002
3.0	-0.1796	-1.269	0.205	0.005308
4.0	-0.2051	-1.447	0.149	0.006977
5.0	-0.1704	-1.209	0.228	0.004960
6.0	-0.1681	-1.181	0.239	0.004835
7.0	-0.2053	-1.428	0.154	0.007227

- The current week's Google trends statistically significantly don't predict any ahead returns.

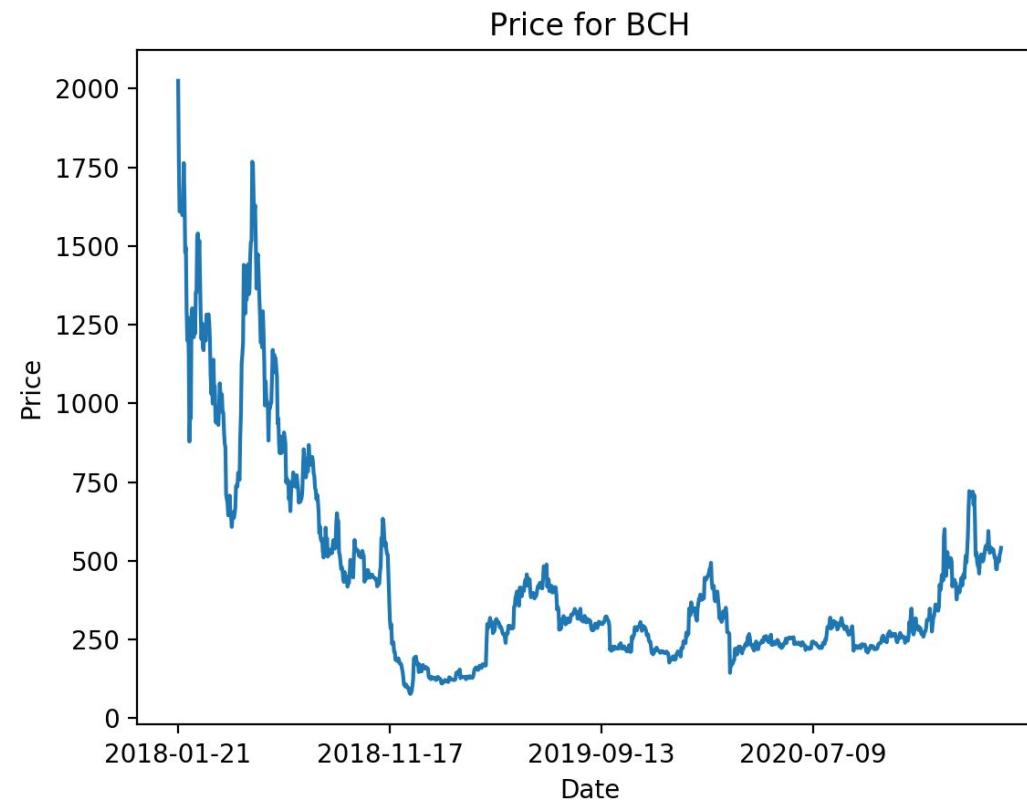
XRP Weekly Google Investor Attention by Quintile

		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
1.0	-49.906616	1.926816	-3.015	0.004	0.133523
	-8.700225	2.820618	6.489	0.000	0.412351
	-3.025906	0.082752	-0.631	0.530	0.006599
	1.347004	0.620287	0.225	0.823	0.000845
	9.018649	8.633714	0.803	0.425	0.010622
2.0	-49.906616	-0.951160	-1.126	0.265	0.021402
	-8.700225	4.939754	1.474	0.146	0.034952
	-3.025906	2.538488	2.701	0.009	0.108404
	1.347004	0.156979	-1.610	0.113	0.041398
	9.018649	7.371722	-0.055	0.956	0.000050

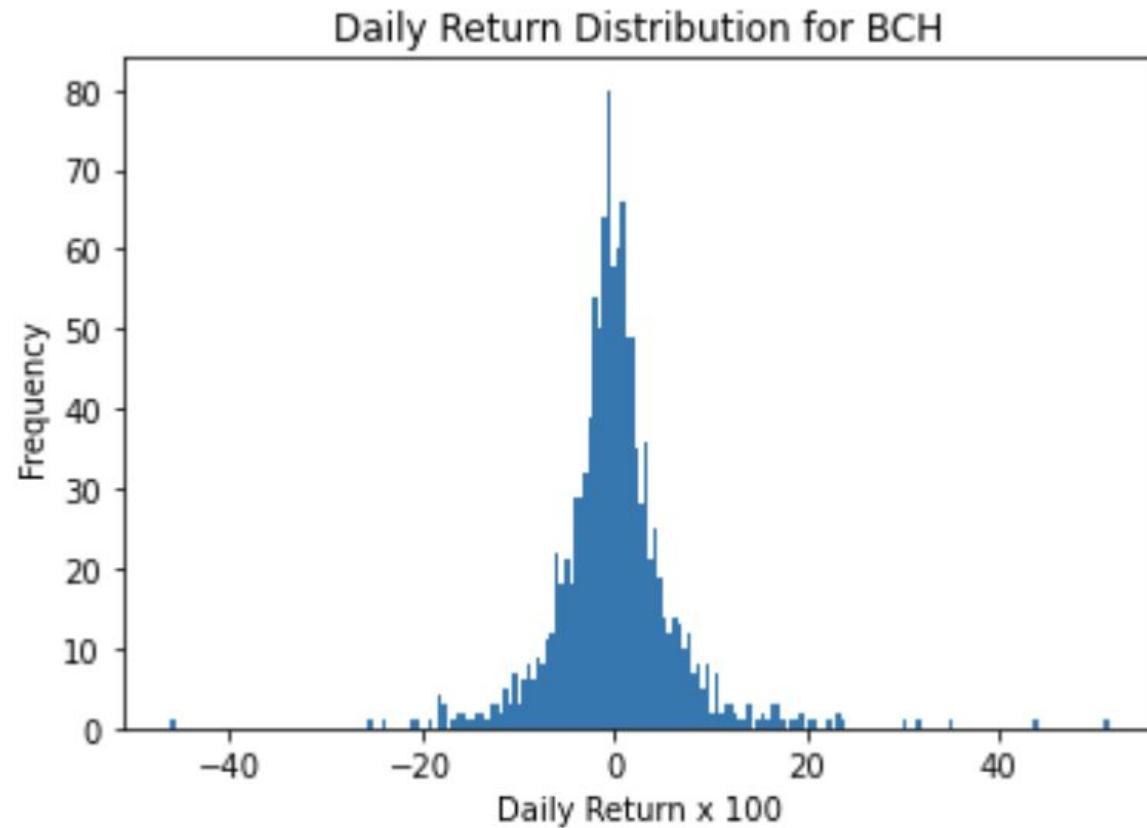
		average_ret	t-statistic	p< t	r^2
rt_index	quintile_index				
3.0	-49.906616	-1.103456	-1.279	0.206	0.027410
	-8.700225	3.761153	1.448	0.153	0.033786
	-3.025906	2.913399	0.438	0.663	0.003192
	1.347004	3.218789	-0.537	0.593	0.004779
	9.018649	5.646510	-0.890	0.377	0.013248
4.0	-49.906616	-1.117872	1.062	0.293	0.019414
	-8.700225	4.787856	0.574	0.568	0.005458
	-3.025906	3.292729	1.379	0.173	0.030718
	1.347004	5.131860	1.174	0.245	0.022437
	9.018649	2.122674	-1.922	0.059	0.058939

- We find that the top quintiles outperform the bottom quintiles at 1-4 week ahead horizons. For example, at the 1-week horizon, the average return of the top quintile is 8.63 percent per week while the average return of the bottom quintile is 1.92 percent per week.

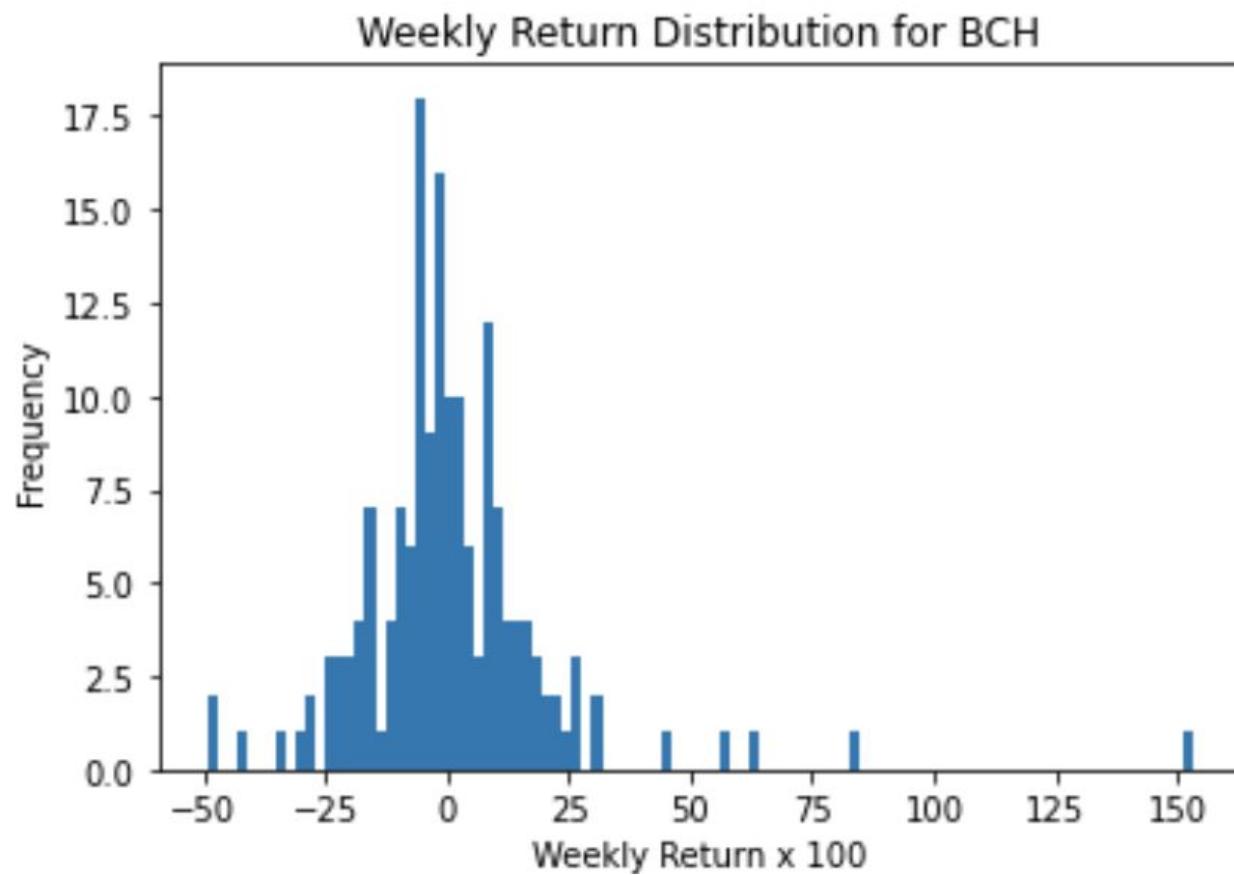
BCH Price Movement



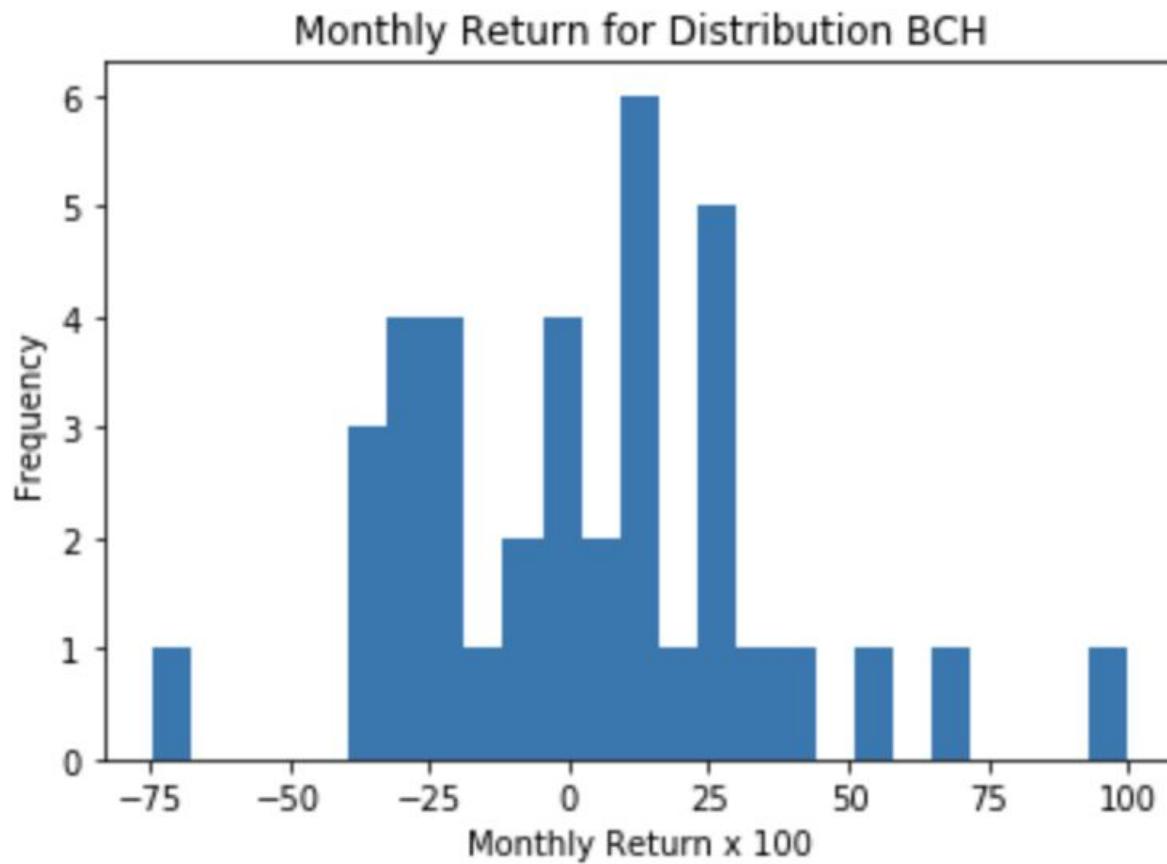
BCH Daily Returns



BCH Weekly Returns



BCH Monthly Returns



BCH Daily Momentum

	beta	t-statistic	p< t	r^2
rt_index				
1.0	-0.0053	-0.180	0.857	2.777335e-05
2.0	0.0699	2.394	0.017	4.914218e-03
3.0	0.0381	1.301	0.194	1.459430e-03
4.0	0.0365	1.244	0.214	1.338365e-03
5.0	-0.0010	-0.032	0.974	9.166261e-07
6.0	-0.0120	-0.406	0.685	1.443452e-04
7.0	-0.0255	-0.863	0.388	6.546993e-04

- The current return positively and statistically significantly predicts 2-day returns.
- One standard deviation increase in today's returns increases R_t by a factor of 0.0699.

BCH Weekly Momentum

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	0.078	-0.658	0.511	0.002653
2.0	0.078	-0.908	0.365	0.005100
3.0	0.079	-0.650	0.516	0.002671
4.0	0.081	-1.169	0.244	0.008801

- The current week's cannot predict ahead returns statistically significantly.

BCH Weekly Momentum by Quintile

		average_ret	t-statistic	p< t 	r^2
rt_index	quintile_index				
1.0	-50.386076	0.026809	-0.005	0.996	9.201702e-07
	-9.822826	2.516810	-0.426	0.673	6.007661e-03
	-3.397461	1.590619	-0.021	0.983	1.464847e-05
	1.600000	1.478171	1.826	0.078	9.710533e-02
	10.301193	-0.178658	-1.173	0.250	4.252791e-02
2.0	-50.386076	3.127782	-1.374	0.179	5.743289e-02
	-9.822826	3.119948	0.716	0.479	1.680812e-02
	-3.397461	-2.743635	0.368	0.715	4.355508e-03
	1.600000	4.547167	-0.918	0.366	2.645368e-02
	10.301193	-1.928917	0.531	0.599	9.013618e-03

		average_ret	t-statistic	p< t 	r^2
rt_index	quintile_index				
3.0	-50.386076	-0.378316	1.170	0.251	4.228652e-02
	-9.822826	4.747932	-0.482	0.633	7.696176e-03
	-3.397461	2.375292	0.275	0.785	2.432926e-03
	1.600000	-2.472727	-1.808	0.080	9.534984e-02
	10.301193	2.035545	-1.259	0.218	5.018884e-02
4.0	-50.386076	5.099546	-0.492	0.626	7.757302e-03
	-9.822826	0.195431	-1.558	0.130	7.484874e-02
	-3.397461	-1.899009	-0.908	0.371	2.590366e-02
	1.600000	3.528762	-1.477	0.150	6.777192e-02
	10.301193	-1.486123	0.396	0.695	5.200988e-03

- We find that the top quintiles outperform the bottom quintiles at 3 week ahead horizons. For example, at the 3-week horizon, the average return of the top quintile is 2.03 percent per week while the average return of the bottom quintile is -0.37 percent per week.

BCH Weekly Google Investor Attention

	beta	t-statistic	p< t 	r^2
rt_index				
1.0	-0.1353	-1.265	0.208	0.009729
2.0	-0.1146	-1.058	0.292	0.006904
3.0	-0.1384	-1.147	0.253	0.008263
4.0	0.0257	0.193	0.847	0.000242
5.0	0.3658	2.084	0.039	0.028322
6.0	0.1033	0.583	0.561	0.002369
7.0	-0.3000	-1.671	0.097	0.020114

- The current week's Google trends statistically significantly does not predict ahead returns.

BCH Weekly Google Investor Attention by Quintile

		average_ret	t-statistic	p< t 	r^2
rt_index	quintile_index				
1.0	-50.386076	0.026809	-1.229	0.228	0.045065
	-9.822826	2.516810	-0.500	0.621	0.008273
	-3.397461	1.590619	-0.640	0.527	0.013045
	1.600000	1.478171	3.284	0.003	0.258062
	10.301193	-0.178658	-1.352	0.186	0.055657
2.0	-50.386076	3.127782	-0.245	0.808	0.001938
	-9.822826	3.119948	0.983	0.334	0.031189
	-3.397461	-2.743635	-0.210	0.835	0.001418
	1.600000	4.547167	-0.243	0.809	0.001909
	10.301193	-1.928917	-2.449	0.020	0.162092

		average_ret	t-statistic	p< t 	r^2
rt_index	quintile_index				
3.0	-50.386076	-0.378316	-0.540	0.593	0.009318
	-9.822826	4.747932	0.873	0.390	0.024759
	-3.397461	2.375292	0.911	0.369	0.026081
	1.600000	-2.472727	-1.630	0.113	0.078909
	10.301193	2.035545	-1.115	0.274	0.039788
4.0	-50.386076	5.099546	0.832	0.412	0.021845
	-9.822826	0.195431	-0.663	0.512	0.014440
	-3.397461	-1.899009	-1.188	0.244	0.043556
	1.600000	3.528762	-1.366	0.182	0.058585
	10.301193	-1.486123	0.348	0.730	0.004016

- We find that the top quintiles outperform the bottom quintiles at 3 week ahead horizons. For example, at the 3-week horizon, the average return of the top quintile is 2.03 percent per week while the average return of the bottom quintile is -0.37 percent per week.

Why do Google Searches and momentum predict Cryptocurrency returns?

- One of the main reasons google searches and momentum can predict cryptocurrency returns is due to it being a retail investor and a sentiment-driven market. A large number of retail investors are participating in the trading of these crypto assets while large financial institutions such as banks and hedge funds have largely stayed away from the crypto markets, until recently due to government regulations, general fear, skepticism and being unaware of the space.
- A large number of amateur investors are participating in the trading activities whose sole source of knowledge about the price and token is via Google searches.
- One of the reasons that momentum is successful in predicting cryptocurrency returns could be that the crypto market has been on a huge rally, almost ever since its advent, since momentum's core is based on this kind of price movement, it seems successful in predicting returns.

Code

Refer to the notebook analysis.ipynb