New Highs: Best Served Rare

March 24, 2020

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KEY FINDINGS

- New highs that occur on days when there are <100 significantly outperform those that occur when there are >200.
- On days when there are <10 new highs, results may be spurious due to highly volatile individual names.
- The effect is starkest among growth stocks.
- Stocks making rare new highs skew higher in both Group Rank and Relative Strength Rating.
- Rare new highs reveal thematic investment preferences and emerging sector trends.

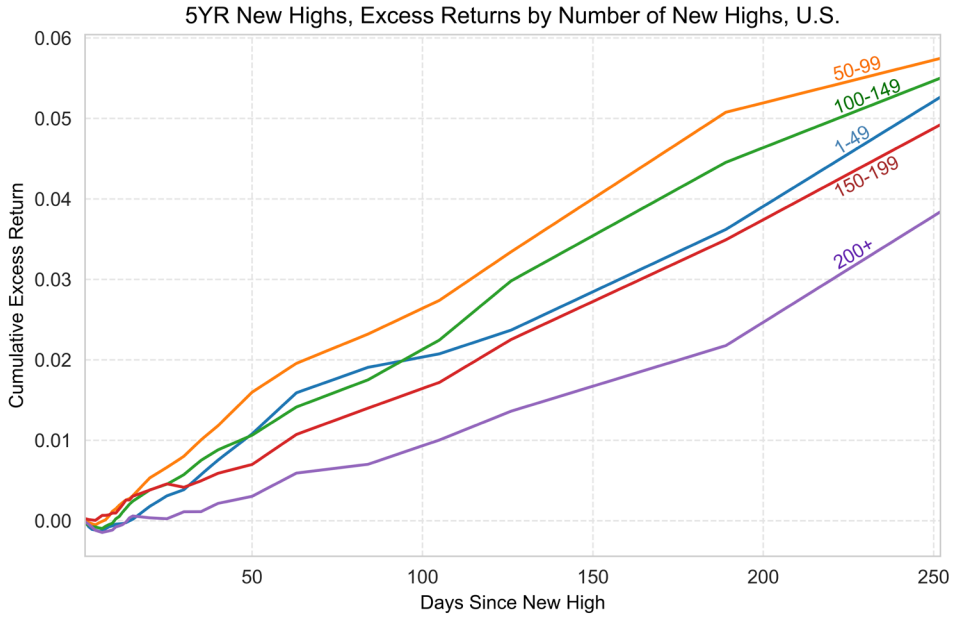


Figure 1: Average cumulative alpha by number of new highs occurring that same day within our U.S. large-cap growth universe

EXECUTIVE SUMMARY

We build on our prior studies of new highs in our U.S. universe by segmenting each event according to the number of new highs occurring that day, comparing performance between bins of 1–49, 50–99, 149–199, and 200+. We find generally that **new highs that happen when new highs are relatively rare generate significantly more alpha than those that occur when new highs are ubiquitous, and that this effect is starkest among U.S. large-cap growth stocks.** Specifically, new highs in U.S. large-cap growth stocks that happen on days when there are 50–99 new highs earn 7% alpha after one year, compared with 3.5% on average when there are more than 200 new highs. However, when

less than 10 new highs occur, results may be **confounded by the spurious effects of individual names with high idiosyncratic volatility.** These results may be further explained by second-order momentum effects in relative performance. In general, unique new highs **sometimes reveal cyclical patterns and trends in sector rotation and abstract investment themes.**

INTRODUCTION

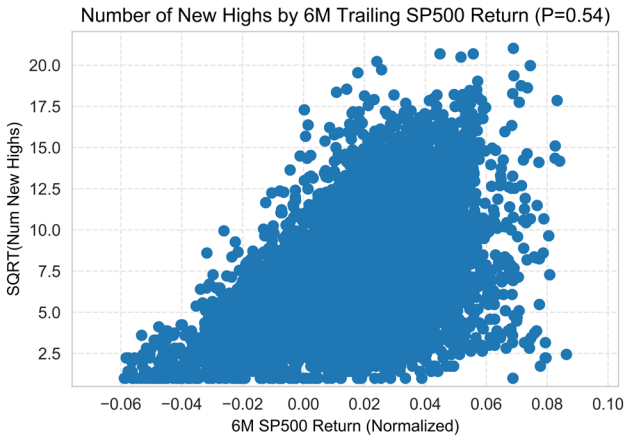


Figure 2: Trailing six-month standardized S&P 500 returns versus the square root of the number of new highs

You may be familiar with the saying "A rising tide lifts all boats" and its corollary "When the tide goes out, you find out who's been swimming without shorts." While our previous study found positive excess returns following new highs, many new highs are explained by overall market appreciation rather than the presence of new or unique information. Figure 2 shows a normalized scatterplot of the number of new highs occurring on a given day and the trailing six-month return of the S&P 500 Index. We see that trailing market return is roughly proportional to the square root of the number of new highs, with a Pearson's correlation coefficient of 0.54. This implies that perhaps more than half of new highs have no idiosyncratic driver but rather are explained by the rising tide of the market. Under these circumstances, such stocks may leave us similarly uncomfortable when that tide inevitably reverses. It stands to reason that controlling for the rising and ebbing market tides may help distinguish the most promising stocks, perhaps identifying standouts that buck the near-term trends of languishing market indices. Specifically, we expect that new highs occurring on days when new highs are relatively rare are more likely to outperform the market going forward than new highs that happen on days when new highs are plentiful.

METHODOLOGY

We empirically tested, over a range of daily event-frequency buckets, the conditional, marginal expectations of cumulative excess returns[1] following a new high event occurring under various conditions of ubiquity for the period January 1995 to July 2018 in the U.S. Specifically, we divided new high events into buckets according to the number of co-occurring new highs on the day as follows: 1–49, 50–99, 100–149, 150–199, and >=200. We perform this analysis across the broader U.S. equity universe initially, and secondarily across our size-style segment matrix of large-cap growth, large-cap value, small-cap growth, and small-cap value to identify conditions under which the uniqueness effect might be most pronounced. We compute the average returns and alphas for each bucket in a similar fashion to straightforward new highs. Each day, we aggregated all stocks in each segment universe[2] that experienced a new high with respect to daily frequency magnitude. We measured cumulative excess returns, aggregated by days since the event, and volatility normalized the results. We then aggregated the normalized excess returns each day and weighted them by liquidity so that our results are driven by the most well-known companies and undue weight is not given to more volatile time periods.

1 Each day, for each stock in our universe, we apply a forward-looking beta estimate using our proprietary model that weights the results of multiple OLS regressions over various timeframes with expectations of coefficient drift and mean reversion. Excess returns are equivalent to CAPM alphas under zero risk-free rate and zero dividend yield assumptions with the S&P 500 used as a proxy for market returns.

2 Our universe construction methodology is free of survivorship bias and considers each stock each day for inclusion on the basis of investability while excluding potential confounders such as penny stocks, ADRs, ETFs and corporate events. The bottom 20% of stocks by price and the bottom 40% by liquidity are removed, with the remaining stocks weighted by liquidity.

RESULTS

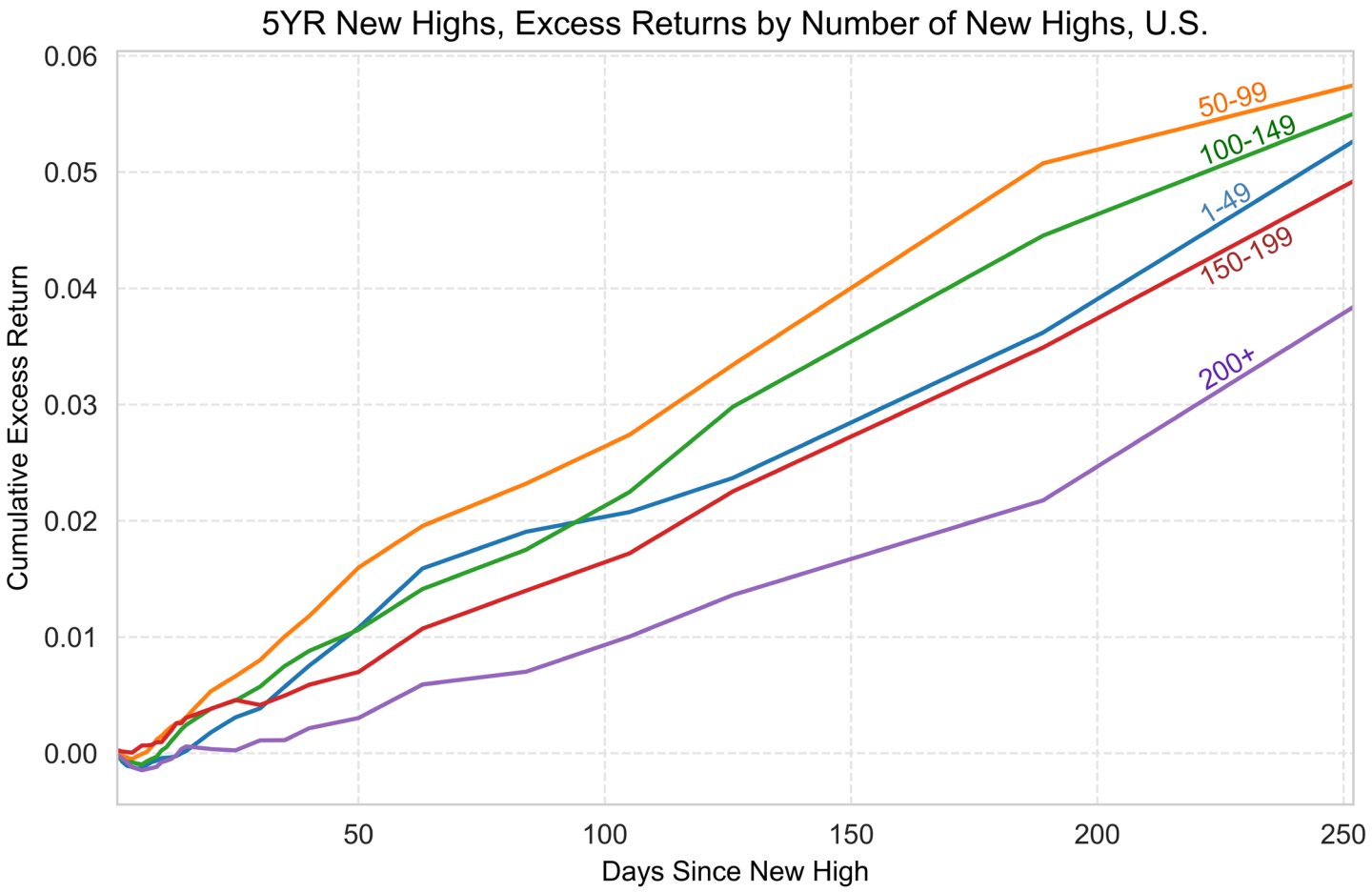


Figure 3: Average cumulative alpha by number of new highs occurring that day within our U.S. equity universe

Figure 3 shows the average cumulative alpha by days since new high for the respective buckets formed on the total number of new highs occurring on the day. We found generally that new highs that happen when **new highs are relatively rare generate greater alpha than those occurring when new highs are ubiquitous**. However, figures for **very small numbers of new highs are confounded by spurious effects of individual names with very high idiosyncratic volatility.** Table 1 shows that the 50–99 and 100–149 buckets generate approximately 6% alpha on average, while those comprising more than 150 new highs generate approximately 5% alpha on average. The 1–49 bucket, however, is slightly out of step with the remaining four buckets at only 5.06%.

Table 1: New Highs, One-Year Post Event Performance by Number of Co-Occurrences, U.S. Equity Universe

	1-49	50-99	100-149	150-199	200+
Cumulative Log Return	3.59%	4.75%	7.77%	7.11%	7.27%
Cumulative Excess Return	5.06%	6.06%	5.86%	5.05%	4.88%
Hit Rate	62.35%	62.45%	66.07%	65.27%	66.31%
Average Gain	28.84%	28.83%	27.34%	26.15%	25.71%
Average Loss	-27.82%	-25.75%	-22.12%	-21.25%	-21.49%
Average Max Runup	29.48%	29.99%	29.12%	26.88%	26.90%
Average Max Drawdown	-22.54%	-20.50%	-17.58%	-17.19%	-16.86%
Pct Daily Frequency	0.29%	0.53%	0.50%	0.38%	0.55%

Table 1: Average post-event performance statistics one year following a new high by number of co-occurrences from 1995 to 2018 across our U.S. equity universe. Returns and excess returns are statistically significant at the 99% confidence level. Cumulative Alpha is based on the CAPM, with the S&P 500 as a proxy for market returns. Hit Rate refers to the percentage of events on average yielding positive returns. Pct Daily Frequency is the average proportion of our investable U.S. equity universe experiencing a new high with respect to the given window length on a given day.

This phenomenon might be explained by the spurious effects of individual names with very high idiosyncratic volatility that dominate the daily portfolio of new highs when there are only a few. When there is at least a critical mass of new highs, the daily liquidity-weighting scheme has the effect, in the aggregate, of downweighting such names in favor of the most liquid issues that would more likely reflect the selections of a typical investor. However, when there is a single new high in a day, it becomes 100% of the daily new highs portfolio, though we make a reasonable effort to upweight in relative terms in accordance with the number of daily events to mitigate this issue.

Figure 4

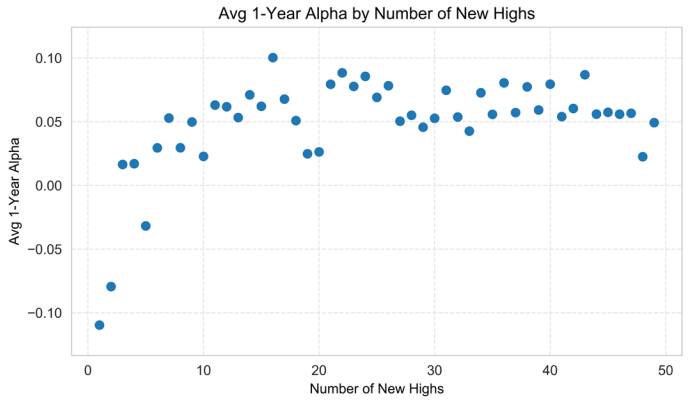


Figure 5

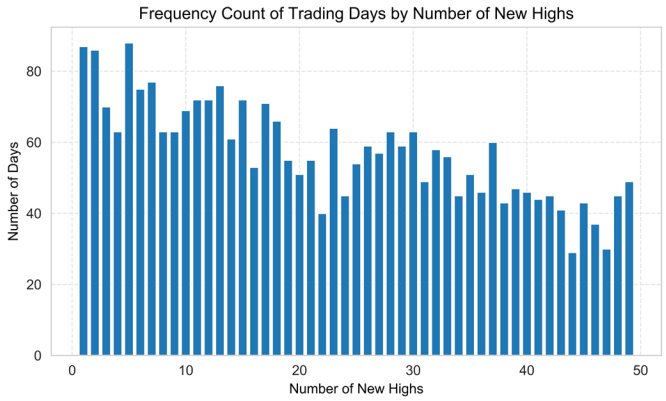


Figure 6

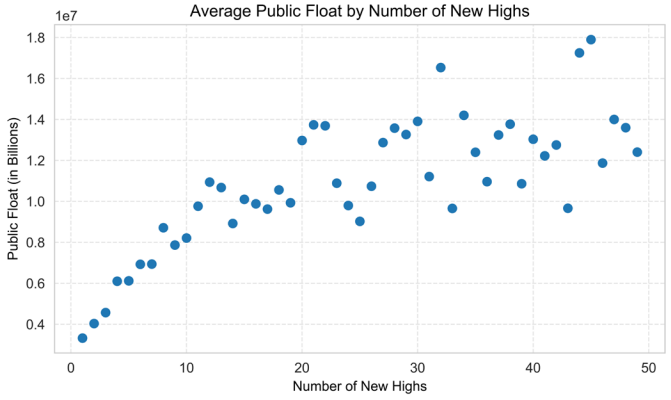
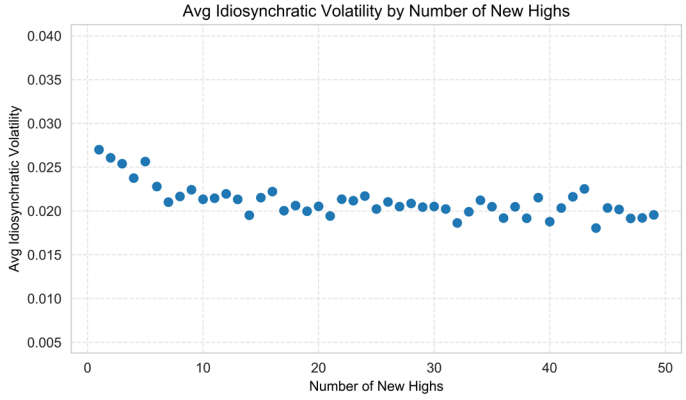


Figure 7



Figures 4-7: Figure 4 shows average alpha one-year post event as a function of the number of new highs that day across the U.S. equity universe for days when the number of new highs is less than 50. Figure 5 shows, for each potential new highs count, the number of trading days having that count for days when count is less than 50. Figure 6 shows the average value of the public float for daily new highs as a function of the new high count. Figure 7 shows the average level of idiosyncratic volatility as a function of the number of new highs.

Figure 4 shows the relationship between average one-year alpha and the number of co-occurring new highs for days when there are less than 50 new highs. When the number of new highs is greater than 10, the average is relatively stable, hovering near 5–10%. However, when the count drops below 10, it quickly falls into negative territory, to less than -10% when there is only a single new high.

Figure 5 shows the frequency count of days with respect to the number of new highs for days where there were less than 50 new highs. We can see that days with fewer new highs (e.g. <10) occur with greater frequency than days when there are 40–50. This could cause such days to exert disproportionate influence in the final averages for the 1–49 bucket, even after we adjust for the number of occurrences.

As it turns out, such stocks differ materially in measurable ways on average than those making new highs. The lower left quadrant shows the average publicly tradable market capitalization (float) as a function of the number of new highs. As he number of new highs falls to less than 10, this figure drops off sharply, following a similar pattern as alpha. In Figure 7, we see trailing estimates of idiosyncratic volatility plotted against the number of new highs.

ZEROING IN: U.S. LARGE CAP GROWTH STOCKS

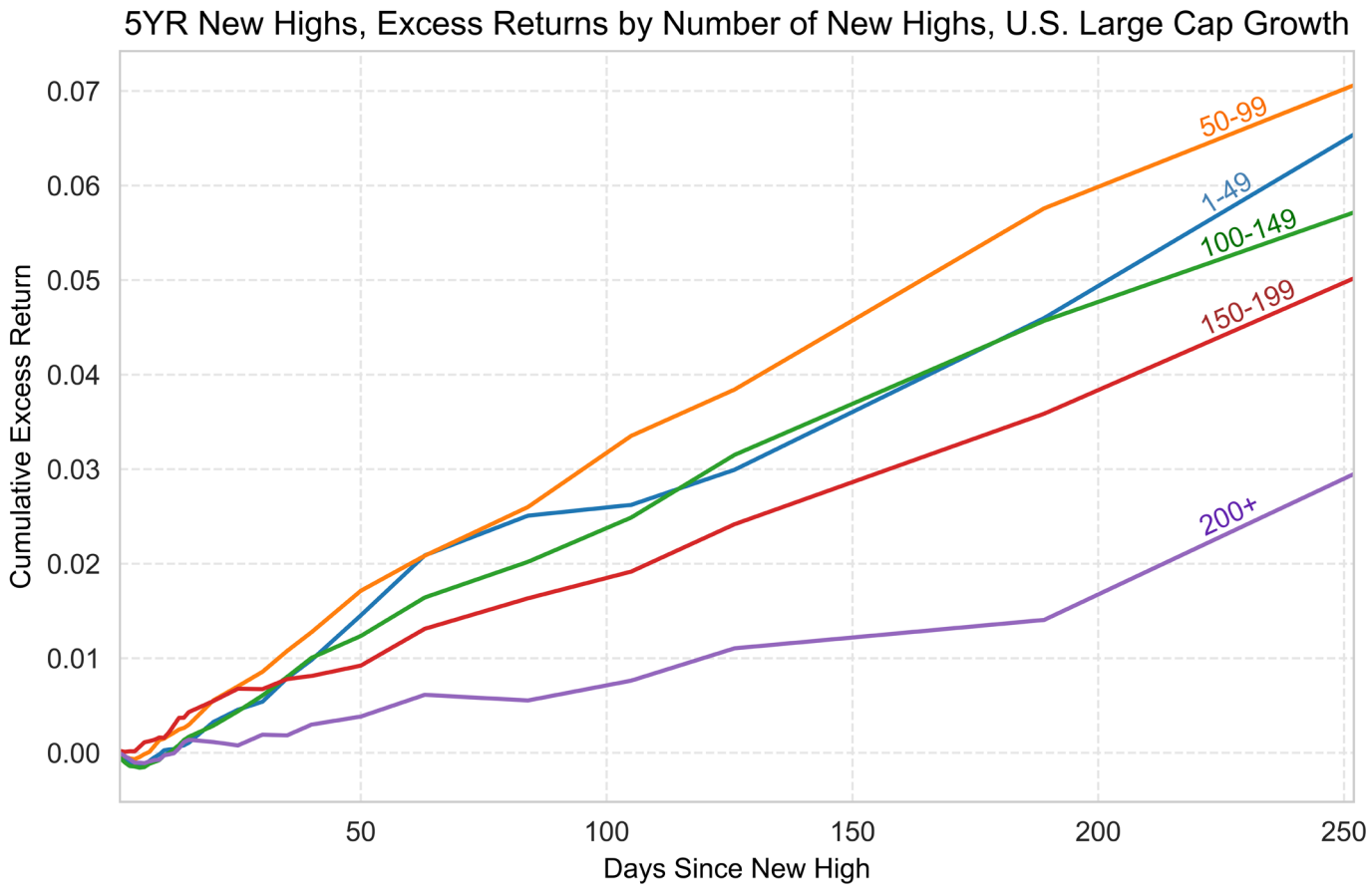


Figure 8: Average cumulative alpha by number of new highs occurring that day within our U.S. large-cap growth universe

We found that the new highs uniqueness **effect is starkest among U.S. large-cap growth stocks.** Like Figure 1, Figure 8 shows the performance by days since the new high by number of co-occurring events, restricted to our U.S. large-cap growth universe. Leaving aside the spurious 1–49 bucket, we see that expectations for cumulative alpha decrease monotonically as the number of co-occurrences increases. Table 2 shows that, when there are less than 100 new highs, average alpha is near 7% (6.78% and 7.15%, respectively, for the first two buckets) but drops to less than 5% for the 150–200 bucket and down to 3% when there are more than 200 new highs.

Table 2: New Highs, One-Year Post Event Performance by Number of Co-Occurrences, U.S. Large Cap Growth

New High Daily Frequency Count:	1-49	50-99	100-149	150-199	200+
Cumulative Return	3.10%	5.66%	7.49%	6.70%	6.47%
Cumulative Alpha	6.78%	7.15%	5.68%	4.92%	3.04%
Hit Rate	62.72%	63.54%	64.73%	64.42%	65.34%
Average Gain	32.62%	31.90%	29.36%	28.18%	27.82%
Average Loss	-32.50%	-28.22%	-23.48%	-23.45%	-24.58%
Average Maximum Favorable Excursion	33.85%	33.98%	30.59%	28.88%	28.81%
Average Maximum Adverse Excursion	-25.53%	-22.15%	-19.43%	-19.27%	-18.84%

Table 2: Average post-event performance statistics one year following a new high number of co-occurrences from 1995 to 2018 across our U.S. large-cap growth universe. Returns and excess returns are statistically significant at the 99% confidence level. Cumulative Alpha is based on the CAPM, with the S&P 500 as a proxy for market returns. Hit Rate refers to the percentage of events on average yielding positive returns. Pct Daily Frequency is the average proportion of our U.S. large-cap growth equity universe experiencing a new high with respect to the given window length on a given day.

Having removed thinly traded and highly volatile small caps from the equation in the large-cap growth universe, the spuriously low returns for the 1–49 bucket have abated somewhat, though they remain slightly below what would be expected in an unambiguous monotonic relationship (greater than 7.15%, rather than the 6.78% observed). While small caps are absent, it seems the presence of highly idiosyncratically volatile names that have (at least temporarily) sufficiently large market capitalization and liquidity for inclusion in our large-cap growth universe continue to somewhat confound our summary statistics, at least on the days in which they are the sole new high, such as might occur during times of extreme market duress. Table 3 shows stocks from this market segment that were the sole stock making a new high that day, ranked according to the number of times they achieved such a distinction.

Table 3: New Highs, Stocks that were the Sole New High on a Day

OSID	Symbol	Coname	Sector Name	First Trade Date	Last Trade Date	Sum Cum Alpha	Avg Cum Alpha	Num Days
33564	MYGN	Myriad Genetics	Health Care	2008-11-10	2009-03-31	-4.640001	-0.662857	7
27080	AZO	Autozone Inc	Retail	2009-02-20	2010-06-23	-0.999636	-0.199927	5
30307	GMCR	Keurig Green Mountain	Retail	2009-04-08	2009-05-08	1.075277	0.358426	3
40390	EQIX	Equinix Inc	Financial	2016-01-08	2016-01-12	0.061937	0.020646	3
16346	RGLD	Royal Gold Inc	Basic Material	2008-10-08	2008-12-23	-0.199311	-0.066437	3
31650	EGO	Eldorado Gold Corp	Basic Material	2009-02-23	2010-05-06	-0.258326	-0.129163	2
28809	HMSY	H M S Holdings Corp	Health Care	2009-06-15	2009-10-30	0.479284	0.239642	2
36657	MMS	Maximus Inc	Capital Equipment	2010-02-10	2010-02-10	0.074673	0.074673	1
11725	SR	Spire Inc	Utility	2008-10-30	2008-10-30	-0.619179	-0.619179	1
41332	NFLX	Netflix Inc	Consumer Cyclical	2009-04-20	2009-04-20	0.222329	0.222329	1
40015	EW	Edwards Lifesciences	Health Care	2009-10-28	2009-10-28	0.406434	0.406434	1
21829	CY	Cypress Semiconductor	Technology	2009-04-24	2009-04-24	0.221544	0.221544	1
27269	ATGE	Adtalem Global Education	Consumer Cyclical	2009-01-22	2009-01-22	-0.331018	-0.331018	1
29499	ORLY	O Reilly Automotive Inc	Retail	2009-07-08	2009-07-08	-0.024116	-0.024116	1
32843	DLTR	Dollar Tree Inc	Retail	2010-07-02	2010-07-02	0.241401	0.241401	1

Table 3: Cumulative and average alpha of stocks that were the sole new high on a given day, ranked by number of days each stock was the sole new high

On seven occasions during the fierce bear market of 2008–2009, Myriad Genetics (MYGN) earned this distinction, generating average one-year forward alpha of -0.66 (-48.5%), undoubtedly dragging down the averages. In Figure 9, we see that the stock's recent idiosyncratically positive performance was not sustained as shares fell over the ensuing month from a high of 44.89 to as low as 22.38.

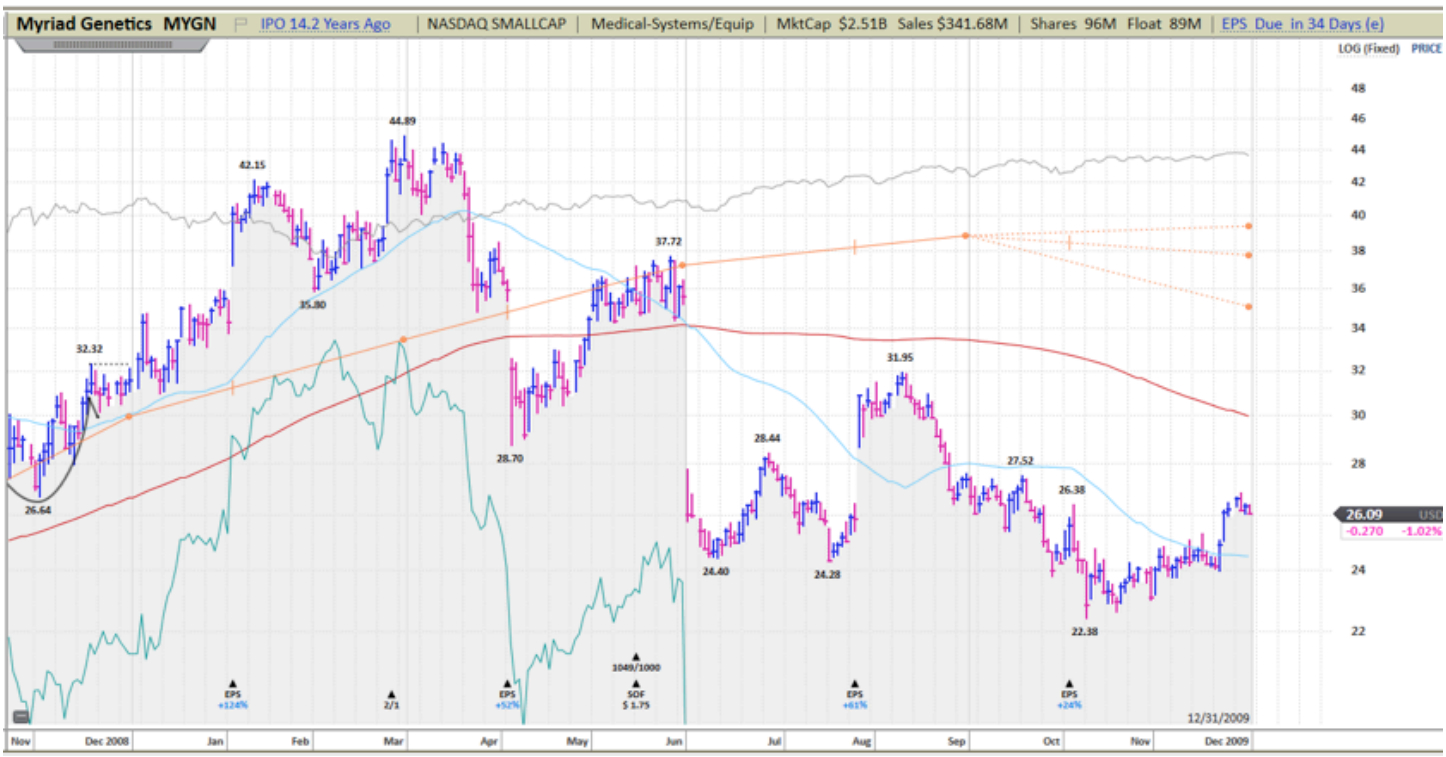


Figure 9: Myriad Genetics (MYGN), PANARAY® price chart

WHAT'S DRIVING THE UNIQUENESS EFFECT?

Previously we have shown that that the number of new highs is monotonically related to the trailing six-month S&P 500 return. Axiomatically, a stock that makes new highs has demonstrated positive recent performance. When such performance occurs during a bear or more broadly languishing market, it follows that the stock has demonstrated positive relative performance as well. Figure 10 shows the average Group Rank and Relative Strength Rating for stocks making new highs by bucket of daily new highs. When there are few new highs, stocks making new highs generally have lower (i.e. superior) Group Ranks and higher Relative Strength Ratings, implying they have been recently outperforming at either or both the individual and industry group levels.

Figure 10

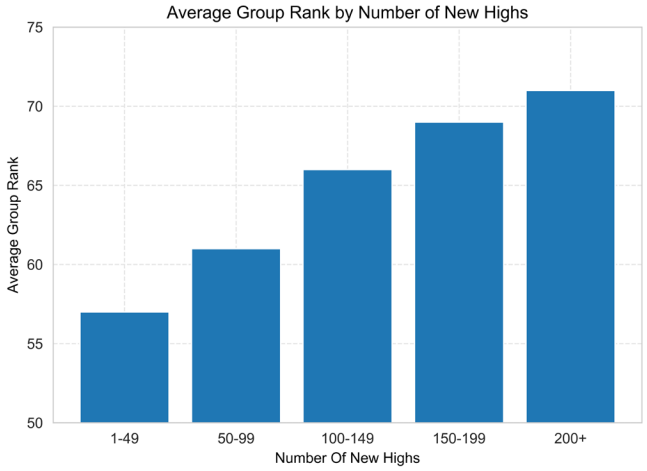
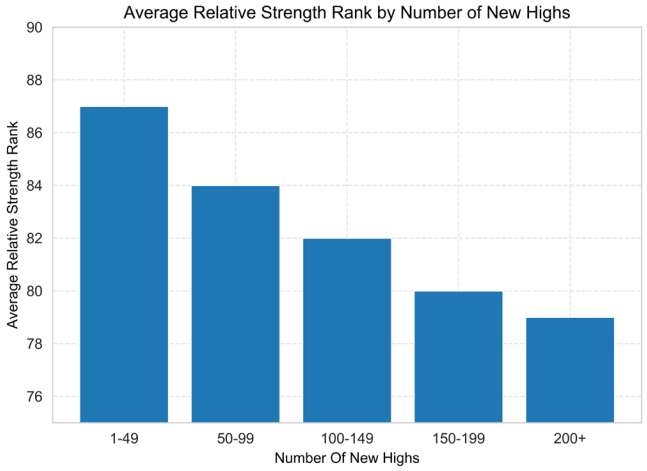


Figure 11



Figures 10-11: Figure 10 shows the average Group Rank for stocks making new highs by frequency bucket. Figure 11 shows the average Relative Strength Rating of such stocks. In both cases we excluded potentially spurious days in which there were ten or fewer new highs.

This suggests that differences in outperformance as a function of the number of new highs may be due to second-order relative performance momentum effects at both the industry and individual stock level. Such differences could further be attributed to either shifts in investor sentiment regarding an industry or investment theme or the idiosyncratic performance or prospects of a given company. One practical implication of this phenomenon is that stocks or groups of stocks that continue to make new highs despite bear market conditions are likely to lead the market as more bullish conditions resume, as the aforementioned second-order momentum effects further amplify the total return offered by a broader bull market.

CONCLUSION

Stocks making new highs when such highs are ubiquitous, numbering perhaps more than 200 on a given day, are reflective of a rising tide lifting many or most stocks to new highs. Consistent with our expectations, such stocks were the worst relative performers of the five buckets when compared with the 4%+ superior relative performance of the 50–99 bucket. The relative scarcity of new highs on these days indicates broader market weakness on the day of the event, which further implies that the performance of such stocks reflects superior relative as well as absolute performance. Our results suggest that we can expect, on average, that superior relative performance to persist well into the future. Consistent with our initial hypothesis, controlling for the rising tide of the market by filtering on uniqueness may improve the results of using new highs as trading signals, perhaps identifying the standouts that buck near-term trends of languishing market indices.

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