



Lowry White Paper

**Lowry's Dynamic Demand Expansions
After Important Market Bottoms**

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Lowry's Dynamic Demand Expansions After Important Market Bottoms

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With three months having now passed since the start of the most recent Lowry Dynamic Demand Expansion (March 23, 2020) and rising anxiety for a major reversal lower beginning to surface in the media, it is timely to revisit this relevant study. On January 23, 2019, Lowry Research published a white paper, “*Powerful Short Duration Expansions in Lowry’s Short Term Index*,” in response to an investigation into the explosive advance in Lowry’s short-term measure of Demand, the Short Term Index, from the December 24, 2018 market bottom. The paper uncovered 9 other instances (now 10) since 1940 when Lowry’s Short Term Index rose by 40 points or more from an oversold position (<60), in 4 weeks or less. As explained in the original paper, despite the Short Term Index being a measure of short-term Demand, “... these relatively quick bursts of strong Demand do not know an ‘overbought’ bound. Rather, these conditions are historically consistent with the accurate identification of lasting market lows and new intermediate- to long-term uptrends.” Investors might think of these strong Demand bursts as providing stocks with the escape velocity necessary to overcome the dominant force of selling in a market downtrend then propel them into a new uptrend. This is similar to how a rocket must expend a tremendous amount of energy to conquer the force of gravity and escape the Earth’s atmosphere toward much less strenuous space travel.

Lowry Research found that these Dynamic Demand Expansions helped to clearly identify the start of new long-term market advances. Per **Table 1**, there have now been 11 recorded observations since 1940, with the most recent occurring off of the March 23, 2020 market low. After the market bottoms that initiated the Dynamic Demand Expansions, on average, the S&P 500 Index climbed 30.77% in the first 12 months, 45.08% after 24 months, and most importantly, did not suffer a drawdown of 20% or more for 37 months. To emphasize the initial power of these Dynamic Demand Expansions, the performance figures are measured from the lows coinciding with the start date of the 40-point, 4-week gain in Lowry’s Short Term Index.

While the sharp selloff into the March 23, 2020 market low was unprecedented in its velocity and limited warning signs, the findings of the January 23, 2019 study of Dynamic Demand Expansions again helped increase conviction that a new uptrend had begun when it was registered on April 24, 2020. As a result, as with the December 2018 market bottom, Lowry Research concluded that not only was the low unlikely to be tested, but that a new long-term market rally had likely begun. Among the most important findings of this study is that it provides investors a well-supported basis to have conviction early in an advance after a severe drawdown.



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In this paper, we closely analyze all observations of Dynamic Demand Expansions for commonalities between the best- and worst-performing signals. Then, we identify optimization factors. We also explore the impact of Dynamic Demand Expansions on volatility and if it is possible to identify opportunities before a prospective signal is registered.

Table 1: Dynamic Demand Expansions and Subsequent Advances

Expansions of 40+ points in Lowry's Short Term Index (STI) from below 60 in <= 4 weeks											
Market Low	Lowry's Intermediate-Trend Buy		Market Low to Buy Signal (Days)	1-Mo. S&P	3-Mo. S&P	6-Mo. S&P	12-Mo. S&P	24-Mo. S&P	S&P 500 % Gain	Months to Next 20% Drawdown	Comments
	STI Initial	Trend Buy		500 Gain (%)	500 Gain (%)	500 Gain (%)	500 Gain (%)	500 Gain (%)	to Cycle High		
5/21/1940	46	7/5/1940	46	9.74%	11.71%	18.05%	4.49%	-12.25%	24.73%	6	Part of '37 - '42 Bear - rebound after 26%, 1-month drop
6/13/1949	53	6/20/1949	8	9.08%	16.16%	22.80%	42.07%	59.04%	267.08%	97	Bear market low
9/14/1953	53	9/16/1953	3	5.46%	14.66%	17.00%	37.74%	98.15%	119.02%	46	Correction low
6/26/1962	46	7/2/1962	7	8.58%	10.26%	20.45%	32.66%	55.70%	79.78%	46	Bear market low
10/25/1962	57	10/30/1962	6	12.53%	19.99%	27.56%	35.31%	55.68%	71.99%	40	Bear market low test
11/23/1971	54	11/29/1971	7	12.07%	16.20%	21.16%	29.01%	10.10%	33.22%	14	Correction low
11/14/1978	45	12/1/1978	18	5.35%	6.90%	6.02%	11.79%	48.29%	51.93%	24	Correction low
*8/12/1982	61	8/20/1982	9	19.14%	38.17%	43.89%	58.05%	61.24%	228.24%	60	Bear market low
11/9/2016	48	12/8/2016	30	4.48%	6.70%	10.81%	19.51%	29.77%	35.46%	22	Post-election advance
12/24/2018	59	12/26/2018	1	13.57%	19.14%	25.28%	37.11%	?	44.03%	14	Correction low
3/23/2020	54	**3/25/2020	2	25.05%	39.95%	?	?	?	?	?	Major market bottom
Average	52			11.37%	18.17%	21.30%	30.77%	45.08%	95.55%	37	
Standard Deviation				6.2%	11.2%	10.2%	15.5%	32.1%	85.3%	27	

* The 1982 bear market low came with a 39-point rise from just above the 60 level
 ** Initial stage of 4-stage intermediate trend buy program

All figures are in simple return terms for the S&P 500 from the low coincident with the start of the 40-point rise in Lowry's Short Term Index until the cycle peak

Win Rate	Win Rate	Win Rate	Win Rate	Win Rate
1m	3m	6m	12m	24m
100%	100%	100%	100%	89%

Analyzing and Optimizing Lowry's Dynamic Demand Expansions

In **Table 1** above, we have color-coded the returns for each time period in either light red (underperformed) or green (outperformed) depending on how each return compared to the average of all Dynamic Demand Expansions. Then, in an effort to identify character traits of the most robust signals and to learn if we could reduce the signal-confirming wait time for the strongest Dynamic Demand Expansions, we introduced an additional variable – Lowry intermediate trend buy signals. Columns for dates of Lowry intermediate trend buy signals and for the number of days it took for them to be registered were added to the original table.

After examining the data in **Table 1**, there are several key takeaways as it relates to subsequent stock index performance. The first point is that nearly all instances identified market entry points that produced 12-month returns well above the historical annualized return of the S&P 500 of 7.2% since 1940. In absolute performance terms, there was only one instance of a negative cumulative return for all time horizons. Further, the standard deviations of returns were below the mean returns in all observations, indicating a high level on consistency of returns around the mean. However, it should be recognized that the greatest consistency appears for 6- and 12-month forward returns, which possess the lowest standard deviations relative to their respective performance figures. Naturally, the further from the start of the Dynamic Demand Expansion in time, the greater the variability of outcomes. This is exacerbated by the fact that the

cycle lengths for a few observations did not endure long enough to see their 12- and/or 24-month anniversaries. Cycle length is a market-derived time measure determined by the number of months from the market bottom from when the Dynamic Demand Expansion began to the peak before the first 20% or more drawdown. For the sake of maintaining objectivity, we included these shorter cycles in our averages even though their durations were shorter than, in one instance 12 months (1940) and in two instances, 24 months (1971 and 2016).

As such, with still a range of outcomes in terms of returns, and more importantly, of cycle lengths, it is worth identifying common traits among the best/longest and the “worst”/shortest advances subsequent to our history of Dynamic Demand Expansions. The cycle is defined by the number of months from the market bottom coincident with the start of the Dynamic Demand Expansion to the final high of the S&P 500 before the first 20% drawdown. From this perspective, two factors appeared to have influenced the ultimate veracity and duration of subsequent market advances – the starting value of Lowry’s Short Term Index and the time to register an intermediate trend buy signal.

In the 3 instances when the initial starting value for the Short Term Index was less than 50 *and* more than 9 days passed from the market low until the registration of a Lowry intermediate trend buy signal, relative underperformance was noticeable. The combination of these preconditions established a less-than-ideal foundation from which stocks could advance. These circumstances were evident in the 1940, 1978, and 2016 observations. Perhaps the most convincing way to view the underperformance of these signals relative to the others is by measuring the S&P 500 gain to the cycle high. These 3 instances produced 3 of the 4 weakest returns of all observations since 1940. Even more interesting was that the magnitudes of gains to the cycle highs were proportionate to the time it took to register Lowry intermediate trend buy signals. This meant that the longer it took to register an intermediate trend buy signal, the less robust the full cycle returns.

Beyond the relatively weak performance figures for nearly every time frame, the time to the next 20% drawdown was also well below average. Not only were the subsequent market advances relatively poor performers (when compared to other signals), but they were less durable – with 24 months the maximum time to a cycle high and 2 of the 3 shortest post Dynamic Demand Expansion advances (1940 and 2016). Here again, among these less explosive signals, there was an inverse proportional relationship between the time it took to register Lowry intermediate trend buy signals and the duration until the first 20% drawdown. For example, the 1978 observation took the least time among the 3 “underperforming” observations to register an intermediate trend buy signal and posted the longest run until the cycle high in the S&P 500.

Conversely, if we study the Dynamic Demand Expansions that sprang from a Short Term Index reading above 50, that were also preceded by an intermediate trend buy signal within 9 days of the Short Term Index’s low, an average of 51 months passed before the cycle peak. These additional optimal conditions were present from the lows in June 1949, September 1953, October 1962, November 1971, August 1982, and December 2018. The duration of these advances is 14 months longer than the overall Dynamic Demand Expansion average of 37 months. The exception, despite a robust return profile, was the December 2018 observation, which peaked after just 14 months – cut short by the exogenous shock of COVID-19.

Unlike the 3 weaker signals highlighted, there did not appear to be a proportional relationship between the length of time it took to register an intermediate trend buy signal and subsequent full cycle returns or duration. Instead, a more natural relationship was evident between the length of the advance and the magnitude of the total returns. In other words, the longest cycle advance produced the highest full cycle return, the second longest advance produced the second highest full cycle return, etc.

The most recent, March 2020 Dynamic Demand Expansion, was born out of semi-idealized conditions. The Expansion started with the Short Term Index above 50 (54), but a full intermediate trend buy signal was not registered for 30 days – on April 24 – the same day the 40-point rise in the Short Term Index was completed. However, the initial stage of a 4-stage intermediate term buy program was registered just 2 days after the market low on March 25. While its path and duration are as yet unknown, the current Dynamic Demand Expansion is off to a promising start. In fact, so far it has produced the highest 1- and 3-month returns of any prior observations – 25.05% and 39.95% – rivaled only by the 1982 Expansion which yielded a 19.14% and 38.17% return by the same performance time intervals.

Finally, we analyzed meaningful market volatility in the wake of each Dynamic Demand Expansion. Per **Table 2** below, we tracked the number and magnitude of 10%+ corrections prior to the next major market top for each observation. We also measured the depth of the maximum drawdowns for every post Dynamic Demand Expansion advance. Most interesting is that despite the wide variation in cycle lengths, only the post-1978 advance recorded more than one -10%+ drop in the S&P 500 Index. The 1978 advance began when the Short Term Index was < 50 and took more than 9 days to register an intermediate trend buy signal. On average the maximum drawdown during the course of all post Dynamic Demand Expansions was -10.40%. These results suggest that Expansion-led advances exhibit long periods of relatively muted volatility.

Table 2: Dynamic Demand Expansions and Volatility

Expansions of 40+ points in Lowry's Short Term Index (STI) from below 60 in <= 4 weeks												
Market Low	Lowry's Intermediate-Trend Buy	Market Low to Buy Signal (Days)	1-Mo. S&P 500 Gain (%)	3-Mo. S&P 500 Gain (%)	6-Mo. S&P 500 Gain (%)	12-Mo. S&P 500 Gain (%)	24-Mo. S&P 500 Gain (%)	S&P 500 % Gain to Cycle High	Months to Next 20% Drawdown	Number of 10% Drawdowns	Max Drawdown	
5/21/1940	46	7/5/1940	46	9.74%	11.71%	18.05%	4.49%	-12.25%	24.73%	6	0	-5.76%
6/13/1949	53	6/20/1949	8	9.08%	16.16%	22.80%	42.07%	59.04%	267.08%	97	1	-13.96%
9/14/1953	53	9/16/1953	3	5.46%	14.66%	17.00%	37.74%	98.15%	119.02%	46	1	-10.58%
6/26/1962	46	7/2/1962	7	8.58%	10.26%	20.45%	32.66%	55.70%	79.78%	46	1	-10.52%
10/25/1962	57	10/30/1962	6	12.53%	19.99%	27.56%	35.31%	55.68%	71.99%	40	0	-9.60%
11/23/1971	54	11/29/1971	7	12.07%	16.20%	21.16%	29.01%	10.10%	33.22%	14	0	-5.13%
11/14/1978	45	12/1/1978	18	5.35%	6.90%	6.02%	11.79%	48.29%	51.93%	24	2	-17.07%
*8/12/1982	61	8/20/1982	9	19.14%	38.17%	43.89%	58.05%	61.24%	228.24%	60	1	-14.38%
11/9/2016	48	12/8/2016	30	4.48%	6.70%	10.81%	19.51%	29.77%	35.46%	22	1	-10.16%
12/24/2018	59	12/26/2018	1	13.57%	19.14%	25.28%	37.11%	?	44.03%	14	0	-6.83%
3/23/2020	54	**3/25/2020	2	25.05%	39.95%	?	?	?	?	?	?	?
Average	52			11.37%	18.17%	21.30%	30.77%	45.08%	95.55%	37		-10.40%
Standard Deviation				6.2%	11.2%	10.2%	15.5%	32.1%	85.3%	27		3.88%

* The 1982 bear market low came with a 39-point rise from just above the 60 level
 ** Initial stage of 4-stage intermediate trend buy program

All figures are in simple return terms for the S&P 500 from the low coincident with the start of the 40–point rise in Lowry's Short Term Index until the cycle peak

Win Rate	Win Rate	Win Rate	Win Rate	Win Rate
1m	3m	6m	12m	24m
100%	100%	100%	100%	89%

Real Time Interpretation

Given the up to 4 weeks required to confirm a Dynamic Demand Expansion and the average first month return from accompanying market bottoms of 11.37%, one might ask if there is a faster way to identify set-ups with high probabilities of developing into confirmed signals. When we added the Lowry intermediate trend buy signal, we also introduced a potential early indicator of successful Dynamic Demand Expansions. As evident through the color-coded returns in **Tables 1 and 2**, the longest and most profitable buy signals, in these situations, tend to be registered in 9 or fewer days. Using Lowry’s intermediate trend buy signals along with the Short Term Index starting level of > 50 and < 60 potentially cuts the “wait time” for a Dynamic Demand Expansion. However, this neglects the real-time factor of not knowing whether the Short Term Index will ultimately rise by 40 or more points within 4-weeks.

In answering this question, we researched these favorable starting conditions going back to 1940. Specifically, we studied when rallies began from when the Short Term Index was between 50 and 60 with an intermediate trend buy signal registered within 9 days, but without a Dynamic Demand Expansion. That is, instances when Lowry’s Short Term Index then failed to fulfill the objective 40-point rise in 4 weeks or less. **Table 3** below depicts these observations and the subsequent 12-month and full cycle returns.

Table 3: Advances From Short Term Index 50 – 60 and Intermediate Trend Buy Signals But No Dynamic Demand Expansion

Lowry's Short Term Index (STI) from 50 - 60 with Intermediate Trend Buy Signal within 9 Days						
Market Low	STI Initial	Intermediate-Trend Buy Signal	Low to Buy Signal	12-Mo.S&P 500 Gain (%)	S&P 500 % Gain to Cycle High	Months to Next 20% Drawdown
4/28/1942	58	5/1/1942	3	53.68%	157.03%	49
9/21/1959	57	9/24/1959	3	-1.03%	31.74%	27
9/28/1960	58	10/5/1960	6	26.87%	38.41%	15
6/28/1965	50	7/2/1965	4	4.99%	15.27%	8
9/8/1966	53	9/12/1966	4	24.08%	42.50%	** 26
10/7/1966	56	10/12/1966	5	32.87%	48.05%	** 25
6/25/1969	50	7/5/1969	8	-23.70%	NA	* NA
6/6/1973	57	6/12/1973	6	-13.06%	NA	* NA
5/31/1974	53	6/7/1974	8	4.43%	23.12%	** 31
7/19/1974	53	7/24/1974	5	11.56%	28.63%	** 29
10/16/2002	56	10/21/2002	5	19.15%	77.60%	** 60
3/13/2003	53	3/17/2003	4	34.66%	88.14%	** 55
1/5/2006	57	1/13/2006	8	10.94%	22.90%	21
4/14/2008	59	4/18/2008	4	-36.65%	NA	* NA
12/4/2008	57	12/8/2008	4	30.85%	61.02%	29
8/10/2011	54	8/12/2011	2	25.44%	90.14%	45
7/13/2015	51	7/13/2015	0	2.48%	39.57%	38
Average	55			12.21%	54.58%	29
Standard Deviation				22.75%	38.10%	

* Occurred early in 20%+ drawdown
 ** Similar low to same cycle high (double counted)

While on average the results were fairly impressive, when compared to Lowry's Dynamic Demand Expansions, the weaknesses in failing to wait for a confirming signal were apparent. The observations in **Table 3**, offered lower return potential on a 12-month and full cycle basis, shorter cycle durations, and a far greater variance of outcomes. The comparative lack of consistency as demonstrated by the standard deviation twice the mean 12-month return is of particular importance as it relates to investing with conviction and confidence early in a new market rally. While the full cycle returns were strong, these returns did not include the false signals. The fact that these false signals were not included in the full cycle return figure because they occurred during bear markets, had the effect of artificially deflating the standard deviation. To this point, the most glaring difference between these results and the Dynamic Demand Expansions is the occurrences of false signals relatively early in bear markets (1959, 1969, 1973, and 2008).

As a result, it is best to wait for confirmation in the form of a 40-point rise in the Short Term Index within 4 weeks to signal a Dynamic Demand Expansion and, therefore, that an even higher probability long-term market bottom has occurred. Given these findings, the other key takeaway is to recognize the potential bullish long-term implications, as it relates to cycle length and returns, after the 40 or more point rise in the Short Term Index along with the full combination of optimal factors. In this way, investors can commit funds with greater confidence in the early stages of a powerful, sustainable new market cycle and in subsequent market pullbacks.

(Continued)

Key Findings and Conclusions

- Lowry's Dynamic Demand Expansions are rare and meaningful market reversal signals that help investors more confidently identify the early stages of new, long-term market advances. The observations of these signals provide grounds for higher conviction investing early in new long-term uptrends and during subsequent market pullbacks.
- Based on the lower relative standard deviations, the 6- and 12-month S&P 500 returns from the start of the average Dynamic Demand Expansion demonstrated the greatest consistency.
- The longest and most profitable Dynamic Demand Expansions have demonstrated a strong tendency to begin when Lowry's Short Term Index is above 50 and when the market low is followed by a Lowry intermediate trend buy signal in 9 days or less.
- Conversely, the shortest and least profitable Dynamic Demand Expansions have typically begun when Lowry's Short Term Index is less than 50, and when the market low is not followed closely by a Lowry intermediate trend buy signal. It appears that the longer the wait until the registration of Lowry's intermediate trend buy signal, the less efficacious the Dynamic Demand Expansion was.
 - Importantly, even the worst signals produced positive returns 12 months from the low, and full cycle annualized returns far superior to the long-term average of the S&P 500 Index – 7.2 % (not including dividends) since 1940.
- We found that Dynamic-Demand-Expansion-led advances tend to exhibit long periods of relatively muted volatility. Despite the wide variation in cycle lengths, the typical advance recorded 1 or 0 -10% or more drops in the S&P 500 Index. On average the maximum drawdown during the course of all post Dynamic Demand Expansion was -10.40%.
- In real time interpretation, even when a market advance starts from when the Short Term Index is greater than 50 and less than 60, then registers a Lowry intermediate trend buy signal within 9 days, it is best to wait for confirmation of a Dynamic Demand Expansion from the Short Term Index. Confirmed Dynamic Demand Expansions provide a much higher probability that a long-term market bottom has occurred.