Time Stocks Spent in Up, Down and Sideways Markets (2018 Update)

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Purpose of the Study:

In 1992 I did a study of how much time the market spends in up, down and sideways periods. It served several purposes at the time:

1. It put Trendstat's name in front of the money management industry.
2. It once again showed the value of timing the market in reducing risk.
3. It helped me personally be more patient when looking for returns from trading since most of the profits come from very small percentages of the total time spent trading and from a small percentage of the trades.

How the Study Was done:

The original study analyzed data from January, 1964, to July, 1992. At the time, Trendstat's models were too complex to explain easily, so I used a simple exponential moving average (EMA) crossover model to create buy and sell signals. For this update to the study I decided to create a fairly long-term, easy-to-execute strategy, using a 10 day EMA versus a 50 day EMA. When the 10 day EMA crossed the 50 day EMA to the upside, I rated that a "buy" signal. When the shorter EMA crossed the longer EMA to the downside, I considered it a "sell". I used only closing prices to keep it simple.

I then broke down all these signals into up, down and sideways markets. To do this, I assumed that an "up" market was any "buy" signal that created at least a +5% return. Any "sell" signal in which the market declined by at least 5% was considered a "down" market. If a signal gave somewhere between -5% to +5% return, the move basically went nowhere, so I rated the move a "sideways" market.

I then ran the program against the data totaling the results by various measures.

Exponential Moving Averages:

Let’s digress a bit and define an Exponential Moving Average (EMA). First you have to calculate a weighting factor based on the number of days you want in the moving average. The formula for the factor is:

Weighting Factor = 2 / (number of days=1)

For a 10 day EMA the Weighting Factor = 2 / (10+1) = 0.1818

The EMA each day is then calculated by taking today’s close versus the average, times the Weighting Factor and adding it to the previous day’s average. This adds only a fraction of today’s data into the average.

Example: The average is 110 and today’s close is 120. A 10 day EMA calculation would be:

New EMA = 110 + 0.1818 * (120 -110) = 111.82

Results:

	Up Mkt	Down Mkt	Sideways	Total	Buy & Hold	Timing*
Trades	31	16	366	413	1	413
% of Trades	7.51	3.87	88.62	100	100	100
Number of days	5767	1862	12007	19636	19636	19636
% of days	**29.37**	**9.48**	**61.15**	100	100	100
Return %	464.03	206.56	-492.35	178.24		
CAGR %					+6.90%	+4.36%
Avg % Per Trade	14.97	12.91	-1.35			
Maximum Drawdown					**-56.78**	**-25.36**

*Long only used in the timing calculation

Note: The database used for the study is 54.75 years’ worth of data from 1/2/1964 to 10/1/2018

Conclusions:

1. Most of the time (61%) was spent in sideways markets, where trend-followers add little or negative value. However the value lost on each trade was small (-1.35%).

2. Value was added in both up markets (average +14.97%) and down markets (+12.91% losses missed).

3. Timing reduced risk (-25.36% maximum drawdown versus -56.78% for buy and hold.

4. Only 29% of the total time was spent in up markets.

5. Only 9% of the total time was spent in down markets.

6. The rest of time (61%) was spent going sideways

6. The 10 and 50 day exponential crossover system measured about 6.5 round turns (13 trades) per year. That is about once per month, so the timing was not that active.

7. Buy and hold beat the timed approach due to a generally upward bias to stocks over the time period measured.

8. The long-only timing strategy produced a positive return, albeit lower than the buy and hold approach with a lot less risk in the process.

How I view the results:

The key to happy, long-term success in trading is to stay disciplined and stick with your strategy if it is performing the way you would expect it to. If you are in the stock market and 61% of the time you spend in markets that go nowhere, you have to realize you spend a lot of time trading going sideways. Timing only adds value in 39% of the time spent in the markets. Dial up the patience and give the strategy time to have enough up, down and sideways markets to see how it deals with each type of market. If it does as expected, then stay the course.

In addition, I find that many traders will abandon what they are doing when the going gets tough. I don't know many traders that will stick out a 56+% drawdown, including me. So, from my experience as a money manager with clients and my experience as a trader, I can say that few I know stick around to actually experience a

buy and hold strategy. There's just too much risk over time and sooner or later the strategy gets abandoned. Trading in order to position the portfolio with the trend makes more sense in keeping the trader mentally balanced, so that they can stick with the plan. They never put themselves into a position that goes against them for very long or for very much.