

On Tina Turner and the Sentiment Indicator: What Love Has To Do With It

By CLARA BASILE AND ELLEN ULLMAN

IT MAY SEEM LIKE A STRETCH TO LOOK TO TINA TURNER FOR INVESTMENT WISDOM, BUT MS. TURNER IS A FORMIDABLE WOMAN WHO'S HAD AN INTERESTING LIFE. IN FACT, HER EXPERIENCE CAN BE SEEN AS A CAUTIONARY INVESTMENT PARABLE (AMONG OTHER THINGS).

Tina married the local love idol of St. Louis, Ike Turner, who helped make her a superstar. But Ike proved less desirable over the years. He was a mediocre musician and a lousy human being who beat up Tina brutally time and time again. What Tina's life tells us is this: When you find yourself falling for the object of everyone's affection, be careful. You may do very well indeed, but in the glow of general approbation, it's possible to lose your head.

In investing, buying idolized stocks may bring mixed results, but the real find is the undervalued gem, the hated issue with the potential to be considered hopeful again. The problem comes in identifying the point where sentiment shifts from hateful to hopeful. It's not enough to know that a particular issue is unloved; we need to know if and when it's likely to become desirable again.

To recognize that point of shifting perception, we have created an indicator called "sentiment." In this column, we introduce the indicator and the price theory underlying it. We discuss our goals in creating the indicator and its uses in investment strategy. In later columns we will apply sentiment readings to technology investing.

The sentiment indicator is a measure of strongly negative investor perceptions. The

higher the reading, the more strongly negative the sentiment about an issue. A reading of 0 represents a loved stock; a reading of 100 represents a hated one. As the sentiment reading approaches 100, the

stock is ripe for a sentiment shift. What sentiment measures is the likelihood that an issue is poised for a change in the market's perception of its worth.

Sentimental Prices

The indicator is useful only if you accept the idea that the sentiment—what market participants *believe* about the worth of an issue—has bearing on the actual market price. We do believe that all pricing is senti-

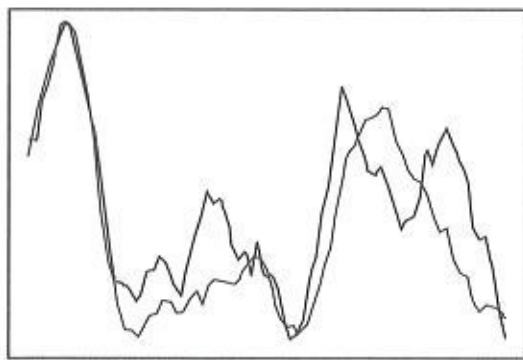
mental, which charts two time series. One series is created from weekly published data called "Bullish Consensus of Futures Traders." The Consensus is a poll of futures traders' views of the S&P 500, either bullish or bearish. The second series in Figure 1 is based not on beliefs but on actual S&P 500 prices. Can you distinguish the traders' beliefs about market prices from the prices themselves? We were struck by the nearly identical shapes of these series.

To satisfy ourselves that this was not just some anomaly in the S&P 500, we also looked at other markets: gold, currencies, bonds, and interest rates. In every case, there was a strong and consistent relationship between participants' beliefs and the real-world prices in those markets. We took this as powerful proof that prices are a function of perception.

Once you accept that love (or hate) does indeed have a great deal to do with the actual price of an issue, you can see why it is desirable to have an indicator of when sentiment is about to change. You can buy the stock before overall perceptions have shifted. You can then ride up as participants become buyers and push the price upward. It is the "buy low" portion of the proverbial investment strategy.

We are certainly not the only ones who have sought an indicator designed to uncover sentiment shifts in the market. Other analysts use put-to-call ratios, futures-to-spot premium ratios, advisory sentiment, odd lot short sales or mutual fund cash positions, to name just a few of the methods currently in use. But we have found that these methods have no practical advantage over price data. Using price as the

Figure 1: Which series is the S&P 500 and which is the Bullish Consensus of S&P futures traders?



mental. Underlying our work is the theory that "value" and "worth" are perceptual; that is, investments are worth what participants in the market perceive their worth to be.

How do we know that prices are a reflection of perception? Consider Figure 1,

S&P 500 1982-1993 (Weekly Observations)

Figure 2:

Sentiment Reading	Number of Occurrences	% of Time
90-100	16	2.41%
80-89	16	2.41%
70-79	20	3.01%
60-69	47	7.07%
50-59	56	8.42%
40-49	133	20.00%
30-39	69	10.38%
20-29	71	10.68%
10-19	132	19.85%
0-9	105	15.79%

Figure 3:

Sentiment Reading	Average % returns achieved in subsequent:			
	1 month	1 quarter	6 months	1 year
90-100	2.89	9.04	12.49	16.02
80-89	-0.05	6.41	12.28	18.51
70-79	1.63	3.30	10.80	23.27
60-69	2.90	9.50	12.57	24.37
50-59	0.79	4.53	8.23	11.50
40-49	0.11	4.27	8.83	17.07
30-39	1.12	0.85	5.94	16.28
20-29	0.29	2.53	4.90	11.10
10-19	1.14	3.38	4.67	7.85
0-9	1.40	5.74	8.49	9.48

Figure 4:

Sentiment Reading	Probability of achieving a positive return in subsequent:			
	1 month	1 quarter	6 months	1 year
90-100	87.50%	93.75%	100.00%	100.00%
80-89	68.75%	87.50%	100.00%	100.00%
70-79	75.00%	55.00%	90.00%	100.00%
60-69	74.47%	74.47%	82.98%	97.87%
50-59	62.50%	66.07%	83.93%	73.21%
40-49	57.89%	69.92%	74.44%	69.92%
30-39	60.87%	55.07%	66.67%	81.16%
20-29	49.30%	69.57%	77.59%	80.70%
10-19	68.18%	76.52%	75.00%	68.94%
0-9	71.43%	88.57%	92.38%	75.24%

Figure 5:

Sentiment Reading	% Maximum Loss in subsequent:			
	1 month	1 quarter	6 months	1 year
90-100	-4.20	-1.58	3.00	9.07
80-89	-10.58	-6.05	2.20	10.34
70-79	-5.12	-5.15	-6.24	10.41
60-69	-5.01	-11.21	-11.78	-4.51
50-59	-7.81	-12.47	-17.39	-10.07
40-49	-37.48	-18.78	-22.81	-12.64
30-39	-11.86	-20.57	-21.64	-14.80
20-29	-23.25	-25.59	-21.25	-19.76
10-19	-22.47	-36.03	-21.86	-22.52
0-9	-4.93	-23.81	-18.27	-20.60

basis of our indicator gives us data sources that are available every day, in any time frame, and at varying degrees of granularity. We can measure perceptions in whole markets, or we can look at market subsectors for which other measures of sentiment may not be available.

Sentiment Shifts as Rare Events

Yet, no matter how good our indicator, we still cannot base our investment strategy wholly on pending shifts in sentiment. The reason is that sentiment shifts are rare events in any investment universe. Shifts at the bottom juncture—changes from negative to positive perceptions—are rarer yet. Figure 2 shows the weekly observations of sentiment for the S&P 500 over a ten-year period. In all those ten years, there were only 16 occurrences of extremely negative sentiment (readings of 90 to 100). Strongly negative sentiment (readings of 80 to 100) occurred just 5% of the time. The overwhelming majority of observations represented more neutral or positive sentiment.

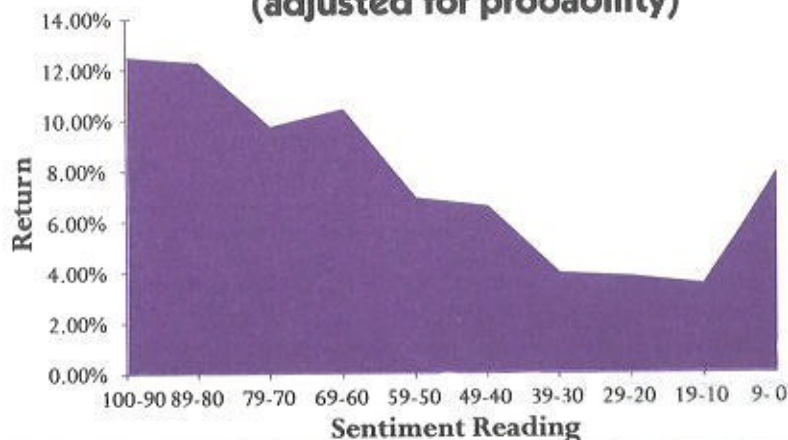
Figure 2 illustrates the difficulty of strictly contrarian investing. There simply are not enough instances of sentiment shift and accompanying trend reversal to fill a good-sized portfolio. Most trends are persistent. Like rolling balls obeying the laws of thermodynamics, a trend in a direction will tend to continue in that direction until it meets some opposing force. And trends have a tendency to continue to extremes before reversing. (The reasons for this behavior of trends

can be found in the study of crowd psychology, a subject beyond the scope of this column). Since trend shifts are rare, we use sentiment as *one method* of finding investment opportunities. To guide our evaluation of an investment, we combine sentiment with others indicators, such as direction of price trend, strength of the trend (persistence), and flow of capital into and out of sectors.

However, we're certainly happy when we find evidence of a pending sentiment shift. It usually means a good chance for high returns at low risk. Figures 3, 4, and 5 show the sort of high average returns, high probability of achieving those returns, and low risk that are available for investments when using our indicator of sentiment. All three tables represent weekly sentiment readings made since 1982 for all 500 stocks in the S&P. We then categorized the readings into deciles from 0-9 (positive sentiment) to 90-100 (extremely negative sentiment).

Figure 3 shows the average returns for each sentiment category at different time distances from the reading: at one month, one quarter, 6 months, and one year. Notice how powerful the indicator is at 6 months. Issues with highly negative readings returned over 12%, while return rates dropped sharply for issues with more neutral sentiment readings. However, as we move away from the time of the readings, the indicator begins to lose some of its predictive authority. At one year, you have moved away from the source of the original sentiment.

Figure 6: S&P 500 Average 6 Month Returns (adjusted for probability)

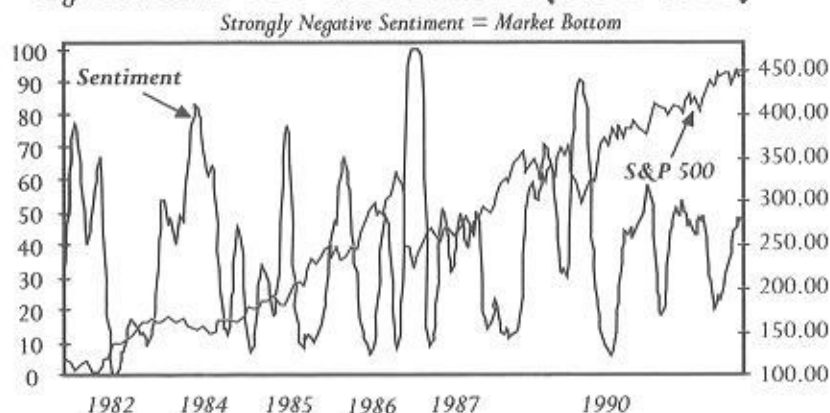


High Probability of High Return At Low Risk

Looking at Figure 3, you might be tempted to say that highly loved stocks (readings 0-9) did not perform too badly. After all, a return of 8.49% at 6 months, and 9.48% at one year, is not at all shabby. But the sentiment indicator can offer more than good average returns; it also offers a high probability of actually getting those average returns, and at relatively very low risk.

If you look at Figure 4, you'll see that issues with strongly negative sentiment readings (80-100) had a 100% probability of achieving a positive return. Further, Figure 5 shows that their maximum rate of loss at any one point in time was actually a gain of 3% during the 6 months following the reading, and a gain of 9.07% during the first year. This means that an S&P investor who bought at times of strongly negative readings could sit back calmly for the first six months, watch the investment grow and have no fearful moments of temptation to sell. The market *never went negative*. Meanwhile, those who invested when the market was popular (readings 0-9) had a fairly strong probability of achieving a positive return but had to sit through losses ranging as high as 23%. On

Figure 7: **S&P 500 & Sentiment (1982-1993)**



the way to achieving their respectable 8.49% gains, popular-market investors had to withstand tremendous downside volatility. Could they really have held on, or would fear have won out?

Figure 6 sums up the power of the sentiment indicator at 6 months from the reading. It shows a graph of average return rates weighted by the probability of actually achieving a positive return. As you can see, the graph is nearly a straight line down. Starting at a high of 12.49% when the market was hated, the weighted return falls precipitously to 3.5% when sentiment was moderate. Returns then climb to 7.84% at times of excess love (0-9). However, great passions in investing are like great passions in life—rare occurrences tinged with fearful risks.

The sentiment indicator can help us find investment opportunities with high upside potentials and low risk. But a couple of caveats are in order. First, the indicator is not intended for quick trading. At times close to the reading (under 6 months), there has not been enough time for the sentiment shift to occur. Second, like most indicators during a secular uptrend like the one we're in, sentiment readings tell us more about bottom junctures (hated stocks about to be desirable) than about top junctures (loved stocks about to become unloved). In short, the indicator is better at signaling buys than sells. As Figure 7 shows, all the major market bottoms occurred when sentiment readings were strongly negative.

One successful application of the sentiment indicator would be to buy stocks at times of strongly negative sentiment readings and sell them 6 - 9 months later. This approach may not get us to the top of the stock's price, but it minimizes downside risk while achieving high returns. We can hold the stock longer; even at one year we will achieve excess returns, but at a somewhat increased risk.

In the past 9 months, we have successfully applied the sentiment indicator to markets other than the S&P 500. It correctly predicted the explosion in gold stocks, in energy stocks, and in the Japanese stock market. In a future column, we'll apply the sentiment indicator to THE RED HERRING Technology 200. In the meantime, we'd like to know your sentiments about the sectors in the Tech 200. Please fill out the survey shown in Figure 8. Let us know your perceptions of each sector by checking off bullish or bearish. Please copy the page and fax it to us at 415-306-1499. We'll let you know how your sentiments compare with our readings.

Clara Basile co-founded Avalon Capital Management with partners Dave Rahn, Bruce Erickson and Bill Oberman. Avalon is a northern California investment firm that provides personalized investment portfolios for individuals. You can reach Clara by phone at 415-306-1500 or by fax at 415-306-1499.

Ellen Ullman is a software engineer and principal at NeoLogica, a San Francisco-based consulting firm. NeoLogica specializes in new product services for start-up and established companies. You can reach Ellen by phone at 415-731-0122, by fax at 415-731-1205, or on the Internet at 'ullman@bix.com'.

Figure 8: **Survey of Readers' Sentiments About Technology 200 Sectors**

Sector	Bullish	Bearish
Communications Services	_____	_____
Computer Data Services	_____	_____
Computer Peripherals & Storage Systems	_____	_____
Computer Retail/Wholesale Distributors	_____	_____
Design Automation Software	_____	_____
Desktop Computers & File Servers	_____	_____
Enterprise Computers	_____	_____
Enterprise Software	_____	_____
Local Area Networks	_____	_____
Multimedia Enabling Technology	_____	_____
New Media Content	_____	_____
Personal Computer Software	_____	_____
Semiconductor Equipment	_____	_____
Semiconductors	_____	_____
Video & Voice Services	_____	_____
Wide Area Networks	_____	_____