Introduction

Social media sources like Twitter have evolved over the past several years from simple messaging platforms to true high-tech, real-time news sources. These platforms communicate large volumes of content to followers across the globe almost instantaneously, and often well ahead of traditional news sources.

Using their patented sentiment score model, Social Market Analytics (SMA), a third-party research provider, can gather, filter, and analyze relevant commentary on social media. The results are actionable intelligence that can be used by traders to understand prevailing market sentiment on specific financial instruments. Case studies by SMA have shown a positive correlation between changes in social sentiment and changes in price.

How it Works

SMA produces a family of patented sentiment-scoring metrics they call S-Factors™. They apply these measures to filtered social media data gathered throughout the day using their three-stage processing approach.

This process uses extraction, evaluation and calculation steps to mine the Twitter and StockTwits message streams on their universe of products – currently stocks, ETFs, and commodities – twenty-four hours a day, seven days a week, producing new estimates of sentiment every minute throughout the day. In summary, their three-stage process includes:

Extraction: SMA polls data sources and captures Tweets that contain comments on stocks in the SMA universe.

Evaluation: SMA then analyzes each Tweet for relevance to the financial markets and the entities in the SMA universe. These "indicative" Tweets express some trading sentiment on the product, and natural language processing is used to assess each message. SMA also uses a proprietary algorithm to further filter Tweets to ensure they are from reliable accounts.

Calculation: SMA then calculates their proprietary S-Factor scores by bucketing and weighing the Tweets based on time. They then normalize and produce the scores that show the sentiment signatures for each member of the SMA product universe.

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The Scores

The S-Factor™ metrics are designed to quantify sentiment on products and help traders understand changes in sentiment levels, and understand the signature of market sentiment for a product over time. IBKR incorporates the following S-Factor™ metrics into our data display:

S-Score™: This is the normalized representation of a sentiment time series over a specific look-back period. It measures the deviation of a stock's sentiment intensity level from its normal state.

Specifically, this is defined as the normalized, exponentially time-weighted summation of sentiment of unique tweets received from credible accounts in a rolling 24-hour window, at the time of observation. Tweets arriving closer to the observation time have a higher weight than the tweets arriving farthest from observation window.

For example, at 09:10 AM, it is the summation of sentiment of tweets received between 09:10 AM the previous day and 09:10 AM today weighted such that the tweets closer to 9:10 AM today are weighted higher.

SV-Score™: This is the normalized representation of a stock's indicative Tweet volume time series over a specific look-back period. It measures the deviation of a stock's indicative Tweet volume level from its normal state.

Specifically, this is defined as the normalized value of Indicative Tweet volume used to compute the social sentiment score, which is the number of unique tweets arriving in a 24-hour interval from certified Social Market Analytics accounts.

IBKR provides access to these scores as:

- Realtime values: Calculated and updated once every minute.
- Historical values: Average of one-minute scores over different time intervals (e.g. 1 day).
- The change from the prior day values.

Additionally we use two other measures from SMA to help traders better understand and take advantage of the data:

S-Delta™: This is the change in S-Score™ level over a 15-minute interval, and is a first order measurement of a stock's sentiment trend. If sentiment is quickly shifting on a stock it would show up here.

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S-Dispersion™: This is a measure of the diversity of Twitter sources contributing to a sentiment estimate at an observation time. Dispersion levels range from 0.0 to 1.0. A level of 1.0 indicates that all indicative Tweets captured for a stock come from distinct Twitter accounts, while small dispersion levels, approaching 0.0, indicate that only a small number of sources produced commentary on the stock.

Interpreting the Data

Because only a subset of securities is well-known and frequently discussed over social media, SMA scores are normalized to allow valid comparison of sentiment between all products in the SMA universe. This makes it easy to see at a glance whether scores are far above or far below average.

SMA scores range from -4.25 to 4.25, with scores above 3 considered extremely positive and scores below -3 considered extremely negative.

S-Score™ Interpretation

S-Score™	Market Sentiment
Higher than 3	Extremely Positive
Between 2 and 3	Highly Positive
Between 1 and 2	Positive
Between -1 and 1	Neutral
Between -2 and -1	Negative
Between -3 and -2	Highly Negative
Lower than -3	Extremely Negative

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SV-Score™ Interpretation

SV-Score™	Tweet Volume
Higher than 3	Much higher than normal
Between 2 and 3	Higher than normal
Between 1 and 2	Slightly higher than normal
Between -1 and 1	Normal
Between -2 and -1	Slightly lower than normal
Between -3 and -2	Lower than normal
Lower than -3	Much lower than normal

Using the Data

In general, positive S-Scores™ are associated with favorable changes in investor sentiment, while negative scores are associated with unfavorable changes. IBKR incorporates Social Sentiment score data into several tools and windows throughout our trading platforms:

- Fundamentals Explorer Widget
- Columns

Fundamentals Explorer Widget

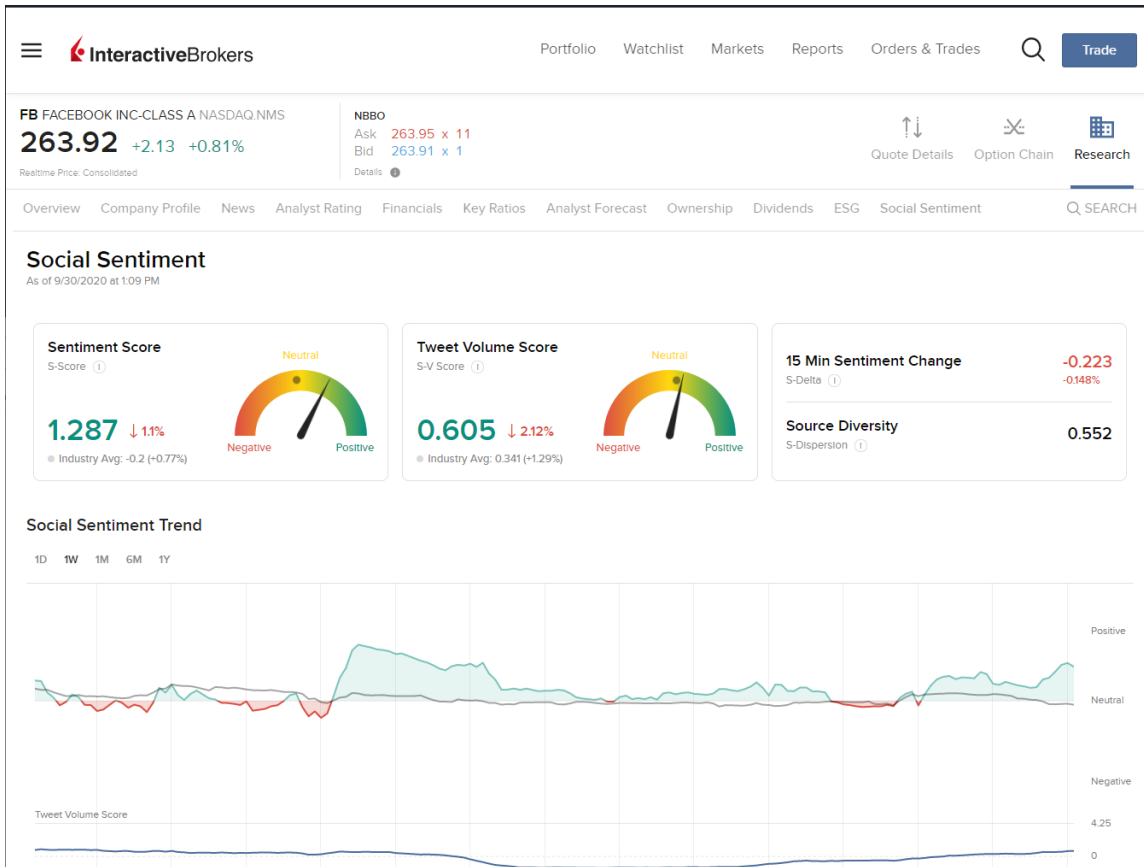Choose an asset and access the Social Sentiment tab in the Fundamentals Explorer. View graphical representations of:

- S-Score
- S-V Score
- S-Delta
- S-Dispersion

Sentiment Score and **Tweet Volume Score** boxes also include the Industry Average. This value is shown in gray below the score, and is also displayed graphically on the gauge as a grey dot to clearly show how its value relative to the company needle.

You can also see historical information for S Scores and SV Scores for both the product and industry plotted with the price of the product in the **Social Sentiment Trend** chart.

Columns

Add Social Sentiment columns to your Watchlist and other windows to see scores on assets that are within the SMA universe:

- Social Sentiment Score: S-Score

- Social Sentiment Score Change: S-Score change from the prior day's average
- Tweet Volume Score: S-V Score
- Social Sentiment Score Delta: S-Delta
- Tweet Volume Score Change: S-V Score change from the prior day's average

	LAST	SOC SNTMNT	SOC SNT CHG	TWT VOL SCR	CHANGE	
EUR.USD	1.1823²				+6²	0.05%
GBP.USD	1.29454⁴				-22⁶	-0.17%
AAPL Sep1...	0.03	0.16	0.79	0.34	-0.05	-62.5...
M	6.93	-3.53	4.10	-0.41	-0.05	-0.72%
FOOLX MF...	c28.90					
T	29.10	0.37	-0.19	-0.70	-0.14	-0.48%
L	36.97	-2.71	3.91	2.39	-0.10	-0.27%
IBKR	47.62	0.35	0.09	-0.68	-0.03	-0.06%
HE Oct14'2...	66.675				+1.450	2.22%
HE Dec14'2...	63.675				+1.700	2.74%
USD.JPY	104.804⁴				-14⁶	-0.14%
AAPL	109.84	0.16	0.79	0.34	-2.29	-2.04%
DIS	129.74	-0.68	1.20	-0.06	-2.35	-1.78%
MMM IBIS	146.12	2.99	-2.09	0.82	+3.40	2.38%
MSFT	201.50	-1.59	1.60	0.20	-3.55	-1.73%
FB	253.13	-0.91	1.46	1.33	-10.39	-3.94%
SPY	334.24	0.27	0.01	1.26	-4.58	-1.35%
TSLA	419.72	0.68	0.52	-0.37	-22.04	-4.99%
NVDA	494.65	-0.45	2.44	0.05	-5.93	-1.18%
AMZN	2987.33	-0.76	1.24	1.26	-90.77	-2.95%
ES Dec18'2...	3332.25				-47.25	-1.40%
SPX INDEX	3342.57				-42.92	-1.27%

Tabs: MONITOR | Portfolio | Favorites1 | US ESG Social Score | +

As noted above, SMA scores range from -4.25 to 4.25, with scores above 3 considered extremely positive and scores below -3 considered extremely negative. Score columns are color-coded to help show positive and negative sentiment at a glance.

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Social Sentiment	Tweet Volume
Extremely Positive	Much Higher than Normal
Highly Positive	Higher than Normal
Positive	Slightly Higher than Normal
Neutral	Normal
Negative	Slightly Lower than Normal
Highly Negative	Lower than Normal
Extremely Negative	Much Lower than Normal

In combination with other research and criteria, Social Sentiment scores can be useful in helping you to identify stocks to trade.

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