

The Geometry of Emotions and Price Action

THE GOAL OF this chapter is to provide an overview of the role of emotions in price action and in analyzing the market. In this chapter, we elaborate on the relationship between emotional states and market conditions and identify the role charting plays in displaying that relationship.

A crowd-mind emerges when formation of a crowd causes fusion of individual minds into one collective mind. Members of the crowd lose their individuality. The deindividuation leads to derationalization: emotional, impulsive, and irrational behavior, self-catalytic activities, memory impairment, perceptual distortion, hyperresponsiveness, and distortion of traditional forms and structures.¹

Let's make a key assumption that a price acts as a landmark. The question then becomes, "What is it a landmark of?" Of course, the visual path of a price shows distance over time, and as a result, the concepts and measures of momentum and volatility can be derived from that relationship itself. The structure of candlesticks and bar charts provide further landmarks. Open, high, low, and close, the four components of each chart, represent the failure and success of different emotional forces. The concept of bullish and bearish candles underscores the consensus that emotional forces provide the energy behind the price

movement, and that charting ultimately reflects the emotional stage of investors, and consequently reflects the market itself. An entire library of candlestick charts and patterns has emerged that relates the emotion associated with a particular candlestick or pattern.

But we have yet to answer a key question: What is an emotion? This is the question William James asked in his article, “What Is an Emotion.”² This question has yet to be answered definitively. Since James’s time it has occupied enormous attention from neuroscientists, psychologists, and economists, as well as spawning the new field of behavioral finance.

It is an important question for traders because in many ways the market cannot be understood without reference to the role of emotions in price action. The market is in many ways a phenomenon of emotion. In fact, there are many metaphors that have been applied to the market: It is a great ocean, a battlefield. Traders have been referred to as “gladiators” and “surfers.” All of these metaphors try to capture an aspect of a market that is perhaps one of the most complex entities ever evolved by human behavior.

Perhaps the most useful approach that has arisen is the characterization of price movement as signatures of fear and greed. In reality, these terms are generic categories that try to capture variations in the emotions involved. *Market sentiment*, *risk appetite*, and *risk aversion* are among the most frequent terms used to unpack the meaning of emotions. We are all familiar with characterizations, such as “the market was surprised,” that speak of the market as if it was an emotionally intelligent entity. Perhaps this assumption is not far from the truth.

The challenge, however, is to give greater shape to what we mean by market sentiment. How do we quantify it? Let’s start by clarifying what we mean by *emotions* and *sentiment*, and define some key terms, before we explore how the market patterns express them. In itself, the language associated with emotions demonstrates that the subject is not simple. Words such as *feelings*, *desires*, *sentiments*, and *mood* are commonly used to refer to emotions. The concept of the market as an emotional machine, or an entity that processes emotions, is a very useful way of thinking about the market. When a price changes, it is the result of the dominance of one emotion over another. The tug of war between “bulls” and “bears” reflects the concept of an ever-present emotional conflict in the market. But market prices represent a result of millions of individual emotional decisions. Each individual decision is influenced by a set of

investment emotions and other decisions. The patterns in the charts emerge as group emotional expressions that express the “mood” of the market.

We still need to answer the question, what are emotions? At least, we need to try to answer it from an investor and trader perspective. Emotions are always about something. When an individual has an emotion, it has to relate to an “object” of emotion. Traders become excited about an earnings report or fearful of an economic downturn. The investor, trader, or money manager operates on that emotion and makes a trading decision. The motivation behind the decision is a complex web of influences that cannot be clearly deciphered. Market and sector indexes become composites of the emotional decisions of investors and institutional opinions. Prices, therefore, become mass behavioral signatures.

When a market reacts to “statements” of policy leaders or central bankers, the market is in effect an emotional being reacting to the words! That is why words move markets. As a result, the science of text mining is becoming a serious trading tool. This phenomenon is often called *herding* or *crowd behavior*. The presence of crowd behavior is now being recognized as a critical factor contributing to market crashes. Simply put, a market crash is an extreme emotional event associated with a high degree of the same emotion being mimicked. In crashes, the emotional contagion is that of uncertainty, and therefore a breakdown happens in the usual balance of sentiment between bullish investors and bearish investors. In bubbles, the emotional contagion is that of euphoria, or greed. Both represent an imbalance between the sentiments of pessimism and optimism. The precursors to crashes and bubbles can be detected in the charts as they change shape in response to changes in the mix of emotions that dominate the market. We all intuitively have experienced “the calm before the storm”: high emotional states that accompany increased volatility. There is no doubt that the market speaks the language of emotions.

Where does all this complexity leave the average trader who wants to gain an edge? The answer is that any serious student of the markets or trader must gain a deeper understanding of how the role of charting provides not only a visual path for price movement, but also an emotional map. Every chart can play a role in helping the trader detect and visualize the emotional processes or stages that the market is displaying. Elaborating on the concept that an emotion must be “about something” to be meaningful, let’s list the key emotions that are involved in price

movements and link them to a shape. There are nuances, of course, in looking at price as a visual path for expressing emotions. A key nuance is *temperament*. Each emotion has degrees of temperament. Measuring temperament is challenging. Multiple-time-frame analysis is one way of doing so, where by comparing charts on different time intervals, such as four hours, fifteen minutes, five minutes, one minute, or ticks, the shape and stability of the emotion can be better detected.

The set of emotions listed in **Table 1.1** is not meant to be complete, but rather to be suggestive of the key emotions that contribute to investor and trader expectations and behavior.

Table 1.1 Types of Emotions and Associated Market Patterns or Indicators

Emotion	Associated Indicator or Pattern
Fear of losses	Increase in momentum
Fear of missing profit opportunity	Early entry
Greed or excessive risk appetite	Parabolic price curve Breakaway gaps
Euphoria/exuberance	Sustained excessive momentum Sharp trend line (> 70 degrees)
Shame	Crowd behavior
Surprise	Spikes
Anticipation	Spikes
Disappointment	Retracement
Exhaustion	Retracement failure
Anxiety	Sideways channel
Doji	Multiple probes of resistance/support
Confidence	Trend channel Trend line greater than 45 degrees
Accumulation	Retracement failure—Multiple tests of resistance and support
Regret	Retracement
Frustration	Multiple probes of resistance/support
Calm/equanimity	Flags
Decreasing certainty	Triangles/wedges

Building Investor Emotional Intelligence

If emotions are important in understanding price action, then emotional intelligence becomes a requirement of technical analysis. In other words, what does an investor or trader have to know to detect emotion in the market effectively, and how can one derive this knowledge?

There are several categories of investor emotional intelligence:

- Ability to detect emotion in market patterns
- Ability to detect transitions in the emotional state of the market
- Ability to understand what emotions convey about fundamental and technical relationships

A premise of this book is that an added benefit of alternative charting is that it gives an edge to the trader in detecting emotional phases in the market. When we view charts in this context, each chart type provides different abilities to extract or detect which emotion dominated the price action. The candlestick chart (**Figure 1.1**) provides a snapshot of bullish versus bearish sentiment. A white candle shows that the bullish sentiment prevailed, and a black candle showed that bearish emotions dominated. The line chart presents boundaries of resistance and support. Price action that comes close to the line, probes it, or breaks it reveals a state of change in the emotional stage of the market. Price break charts provide unique insight on the temperament of the market; because price breaks display only a break or reversal of a trend, they are key indicators of a shift in the emotional stage of the market. One may see point and figure charts, which generate columns of Xs and Os, as measures of emotional continuity—almost as intergroup coherence emotions. Kagi charts pinpoint turning points when yin turns to yang, or vice versa. These turning points can be viewed as points of emotional turbulence or anxiety. In this context, we can look to various charting techniques as important tools, not only for improving trading performance, but also for building emotional intelligence.

We can now begin a detailed exploration of alternative charting types and their applications.

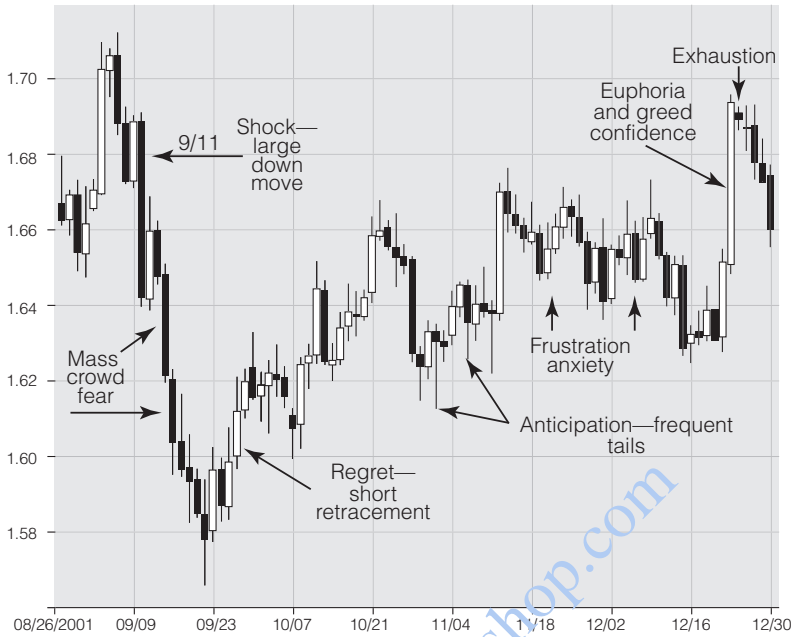


Figure 1.1 Emotional patterns and markets in the USDCHF currency during the 9/11 period

Source: Chart copyright www.ProRealTime.com

Chapter Notes

1. Andrew Adamatzky, *Dynamics of Crowd-Minds: Patterns of Irrationality in Emotions, Beliefs, and Actions*, Bristol, UK: University of the West of England.
2. Mind, 9, 188–225, 1884.