

## Equity Risk-Management Discipline

### Part I: Equity Allocation Reading

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“The stock market . . .,” Robert D. Edwards wrote in his 1951 preface to *Technical Analysis of Stock Trends*, “. . . goes right on repeating the same old movements in much the same old routine. The importance of knowledge of these phenomena to the trader and investor has been in no whit diminished. We see the same forecasting patterns developing on the charts today that we have seen over and over again for the past twenty years. Neither the mechanics nor the ‘human element’ of the stock market have changed, and there is no reason to think that they will.”<sup>1</sup>

The first edition of this acclaimed book was published in 1948 by Edwards and John Magee, and most of their observations on how the stock market behaves are relevant today. While technology and our standard of living have advanced dramatically over the past 61 years, the human psychology factor in making a decision whether to buy or sell a security has not changed. Driven by greed or fear, investors’ activities create price patterns or trend cycles that can be interpreted as bullish or bearish, a good thing or an ominous warning to be mindful of the downside risk.

The benefit of understanding these patterns has helped me develop a method of investing to manage equity risk and market volatility. It also allows me to build upon indicators that count the number of stocks having bullish or bearish patterns, and thereby, informing me whether market risk has been increasing or decreasing based on these patterns’ historical record.

While an indicator’s past performance will not guarantee its future results, a well constructed indicator may bring insight and better understanding of why the market is behaving in a certain way. I believe these market indicators allow me to remain objective in my analysis, which helps to make better investment decisions.

There are countless strategic ways to invest in the stock market. I have discovered during my three decades of investing that the best discipline for me is one that contains three important characteristics.

**First, an investment discipline should compliment an individual's risk tolerance.** As a moderate-risk taker, I want to scale into positions as the market rises, rather than moving "all in" based on the first positive signal. I'd rather have a widely balanced allocation of positions instead of concentrated holdings in just a few stocks or sectors. I'm often surprised by which stock leads my strategy and it might have been a missed opportunity with less holdings.

**Second, the discipline must manage risk.** Buying a stock is a far easier decision to make than knowing when to sell it. Yet, the sell side of the trade becomes the deciding factor in how well a portfolio performs. Investment books preach on the importance of limiting losses for a very specific reason: if an investment portfolio declined in value by 35%, it would require the portfolio to rally 55% in order to break even. That can be a daunting task for a portfolio to accomplish; plus, the time it may take to recover losses has to be factored in when comparing the choice of safely investing money in a CD or U.S. Treasury Bond with little market risk.

**Third, and I think most importantly, reducing the impact of market volatility** on a portfolio becomes critical in managing human emotions. I have experienced the sensation of greed during big rallies or the desperation of fear through market crashes. The 1973-1974 bear market became a great lesson to me on how stock prices can fall so fast when the market index dropped nearly 50%; and then, there was the gold rush of 1979 into early 1980. Its parabolic rise to \$850 was so mesmerizing. I never thought gold would collapse 40% in just a few months after its price peaked; but, it did, much like the technology wreckage of early 2000s, and there were investors who had never fully recovered from their financial losses.

So I've learned investors get emotionally caught up in how the market behaves and that affects our ability to make the right investment decisions. When high volatility causes a rapid decline in the value of a portfolio, an investor is facing the difficult decision whether to liquidate all securities to avoid additional losses, or hope for a market rally that may never come.

In too many cases, big percentage losses happen near the time when an investor may need the money for living expenses. Charities, retirees or college savings accounts may be placed in a position having to withdraw funds near market value lows.

Through experience, I have reasoned that it doesn't matter what the percentage gain one makes during a bull market phase, it's all about what profits one keeps after a cyclical decline. A well-designed, risk-management discipline, with a goal of consistent annual returns, should diminish the effects of the market's high volatility swings, and promote confidence that the discipline could handle any market event.

In this article, I'll explore the first part of my equity risk-management discipline. It is based on a popular philosophy that to understand what the market is doing and where

best to invest your money, an investor should study the market using a top-down approach. To help me analyze the stock market, applying the principles of technical analysis is the method that I use. As defined by John J. Murphy, in his popular textbook, *Technical Analysis of the Financial Markets*, “Technical analysis is the study of market action, primarily through the use of charts, for the purpose of forecasting future price trends. . . Charts simply reflect the bullish or bearish psychology of the marketplace.”<sup>ii</sup>

By using indicators to monitor the health of the total stock market, I’m guided in recognizing the big picture before deciding on what security to buy. In my opinion, this is a major factor in controlling risk, because individual securities can be greatly affected by the general market’s condition. I’ll begin the process by building on existing market indicators to guide me on how much equity risk to take.

### **Upward Sloping Price Scan**

One popular method in analyzing the general market condition is to measure the number of stocks in an uptrend and express that number into a percentage. If more than 50% of stocks have rising trends, one may judge, based on past recordings, that this is a good environment to make a personal investment.

If the percentage rises after each trading day, I might assess that demand for stocks has been increasing and my confidence in the market grows. On the other hand, if the percentage decreased persistently, I should become wary of holding any investment position. Without increasing demand for equities, I’ve learned that share prices have a higher probability to tumble.

There are a number of ways to determine the price trend of a stock’s share. I can look at a historical price chart, pick a time frame in which to trade, and observe whether the share prices are ascending, descending or trading within a range. Analyzing a graph of a stock’s historical price and share volume will return the most accurate interpretation.

For rapid software scanning screens, I simply measure the slope of an intermediate-term trend and count the number of upward trending stocks. A fifty-day period has worked well for me and results in a quick assessment of market conditions.

A graph of a daily percentage change in the upward sloping price scan has a relatively smooth character to its trend, along with rounding bottoms and tops. It does not respond quickly to short-term market movements. At times, this behavior might be considered a weakness of the indicator if a small correction of a trend rapidly turns into a larger move.

Since it only monitors a period of fifty-days, a different price pattern scan would be needed to analyze longer-term trending markets; and for that purpose, a 150-day price moving average plays an important role.

## Exponential Moving Averages Alignment Scan

A simple moving average is the average price of a stock's share over a certain time period. If the price action over five-days for a specific company was 10, 11, 10.50, 11.50, and 12 dollars per share, average the price over its five-days and compare it to its last price. In this case, the five-day moving average was \$11 per share, with the last price at \$12 and aligned above its moving average. I'd find the very short-term trend, based on its price and moving average alignment, constructively bullish, and it will remain that way until the alignment changes.

To compliment my style of investing, I have selected the 50-day and 150-day moving averages as my time frame for trend analysis; and with the help of technical analysis software, I can change my calculations to an exponential moving average (EMA), which gives heavier weighting to the recent price action and allows the moving averages to respond more rapidly. In addition, to reduce the amount of false signals, I replace the daily closing price with a 10-day exponential moving average for trend confirmations. This allows for a couple of highly volatile days against the current trend without the EMA alignment changing its status too soon.

Let me demonstrate how I interpret the alignment of three exponential moving averages. Here are the structural alignments:

**Bullish EMA Alignment** = 10-day moving average above 50 and 150-day EMAs.

**Bearish EMA Alignment** = 10-day moving average below 50 and 150-day EMAs.

Any stock on the bullish alignment list normally indicates which securities are in an uptrend; while the bearish alignment list warns of stocks trending down. It brings clarity to knowing the stocks or sectors on the move.

A graph of the daily percentage change in the bullish EMA alignment scan will move differently than the upward sloping price scan. It generally reacts faster to small whipsaws in market movements, which makes the indicator more susceptible to false breakout signals.

With several deficiencies in using a bullish alignment scan, why consider it at all? Every new intermediate-term uptrend begins with a bullish moving average alignment. There can be no exception to that rule. Some stocks may begin with it only to fizzle out quickly; but, strong rising trends have a bullish EMA alignment as their signature characteristic.

I want to find them, count them and know what sector or security has this bullish signature. It will become the foundation to my risk-management discipline when searching for individual securities to position long trades.

### **The Equity Allocation Reading**

Understanding the strengths and weaknesses of the upward sloping price scan, which counts the number of stocks in a rising trend over a fifty-day period, and bullish EMA alignment scan, which counts the number of stocks above their 50-day and 150-day exponential moving averages, becomes important when employing what I called an equity allocation reading (EAR); because, the equity allocation reading is the average of both scans. Combining the two separate scans diminishes their weak points and enhances their strengths in understanding what's moving the market. I have found that the equity allocation reading reacts to market condition changes with the proper tempo and more graceful graphics.

The EAR guides me as to what percentage of a portfolio's assets should be allocated to equities. I believe the portfolio becomes in-sync with the market itself and eliminates the speculation on how much risk to take. As a goal, I seek to minimize the "human element" in the decision making process, in order to become a better disciplined investor.

Deciding what list of stocks to scan for the EAR is the next important step. The list must have a good balance of stocks that fairly represents different market sectors. The Russell 1000® Index is a good representation for the market as a whole. It contains the largest cap stocks, which heavily weight the major market and industry group indexes.

Running upward sloping price and bullish EMA alignment scans on the Russell 1000® Index will result numbers that are added together then divided by two. If the average was 600, I'd convert that number into a percentage, based on the total number of stocks listed within the index.

It would be incorrect to assume that there are 1,000 stocks listed in the Russell 1000® Index. The number is somewhat less due to stock delistings, mergers or bankruptcies. Let's say there are 970 stocks listed, so divide 600 by 970 and the percentage result is 61.85%.

From this example, more stocks seem to have a bullish price alignment than a bearish one; and I would interpret that to be a healthy condition for the whole market. However, I also want to know if 61% was higher than it was a few days ago. In my opinion, this would indicate that demand has been increasing.

A falling number may warn me of possible erosion in market strength. The trend of the indicator is important and can be viewed with a graph of its historical record. Before we analyze graphs, I'll introduce the equity allocation reading rules.

## Equity Allocation Reading Rules

**Rising EAR:** Buy equities to equal the equity allocation reading and add positions whenever the reading rises above another 10% interval. Example: EAR is 50%, equity positions reflect the same. If the reading moves above 60%, the equity allocation increases to 60%.

**Declining EAR:** Reduce equity positions to equal the equity allocation reading each time it falls through another 10% interval. Example: EAR was 60% a few days ago but now it has fallen through the 50% level. Equities should be sold off to follow the allocation's descent.

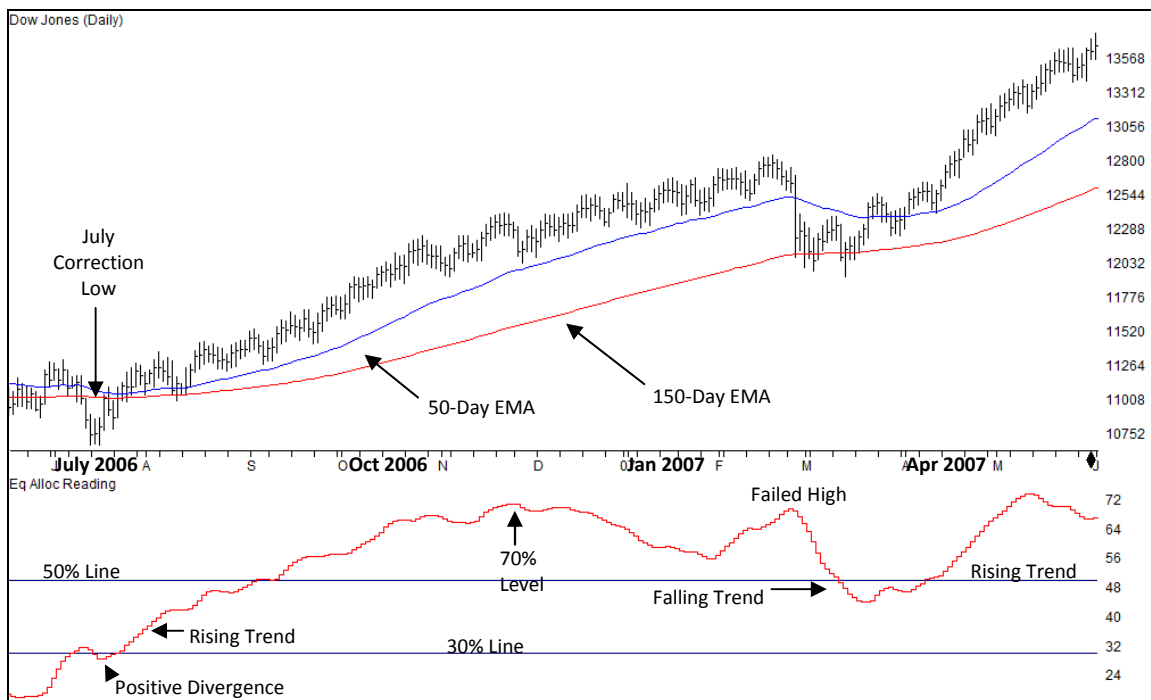
**Risk Adjustment:** The equity allocation reading is modeled for investors who are moderate-risk takers. Aggressive investors may add an additional 20% of equity positions above the current reading, while conservative risk investors may subtract 20%.

This would mean when the equity allocation equals 70%, aggressive investors could invest at 90%, while conservative investors are at 50%. If the equity allocation reading drops below 20%, conservative investors would have no equity holdings.

**Notable Interpretations:** Initiating new positions should be done while EAR has been rising. Risk adverse investors may want to wait until a reading above 50% occurs. Readings above 70% does not necessarily mean the market is overbought; on the contrary, some of the market's biggest rally days happen during this period.

Readings below 30% does not necessarily mean the market is oversold; in fact, the most perilous market conditions develop during this period. A highly defensive portfolio allocation is recommended through this phase, until EAR rises back over the 30% level.

We should view a historical reference on how the equity allocation reading interacts with a major market index like the Dow Jones Industrial Average (DJIA). The following chart shows the equity allocation percent under a graph of DJIA.



Source: Track Data Corp. Charts provided by AIQ Systems, <http://aiqsystems.com>. Past performance is no guarantee of future results. An investment cannot be made directly in a market index.

Here is an example of a positive equity allocation reading divergence based on information provided by Track Data Corporation. The DJIA made a low of 10,653 on June 13, 2006. The equity allocation reading made its low on June 21<sup>st</sup> at 17%. After a brief rally, the market index tested its low on July 18<sup>th</sup> at 10,658 while EAR made a higher low at 28%. By creating a positive divergence, EAR signaled higher demand for equities, which potentially sets up a market rally phase.

Once the equity allocation reading broke above 33% on July 27<sup>th</sup>, it had established a rising trend and the rule for a rising EAR applies with 30% of a portfolio should be allocated into equities.

On August 7<sup>th</sup>, the equity allocation reading rose above 40% signaling that another 10% allocation could be added to equity positions. The indicator continued to rise and the equity allocation should build until it peaked-out at 70% on November 24<sup>th</sup>.

On January 10, 2007, the allocation declined below 60%; the rule would require selling a portion of equities to equal the same. EAR peaked a second time at 69% on February 26<sup>th</sup>. Since it never rose above the 70% level, no additional positions would have been required; moreover, the indicator had signaled a potential market top because it failed to break above November's peak.

February 27<sup>th</sup> began a twelve-day market correction. The rules for a declining EAR should apply. As the reading fell below each 10% interval, equity allocation would be

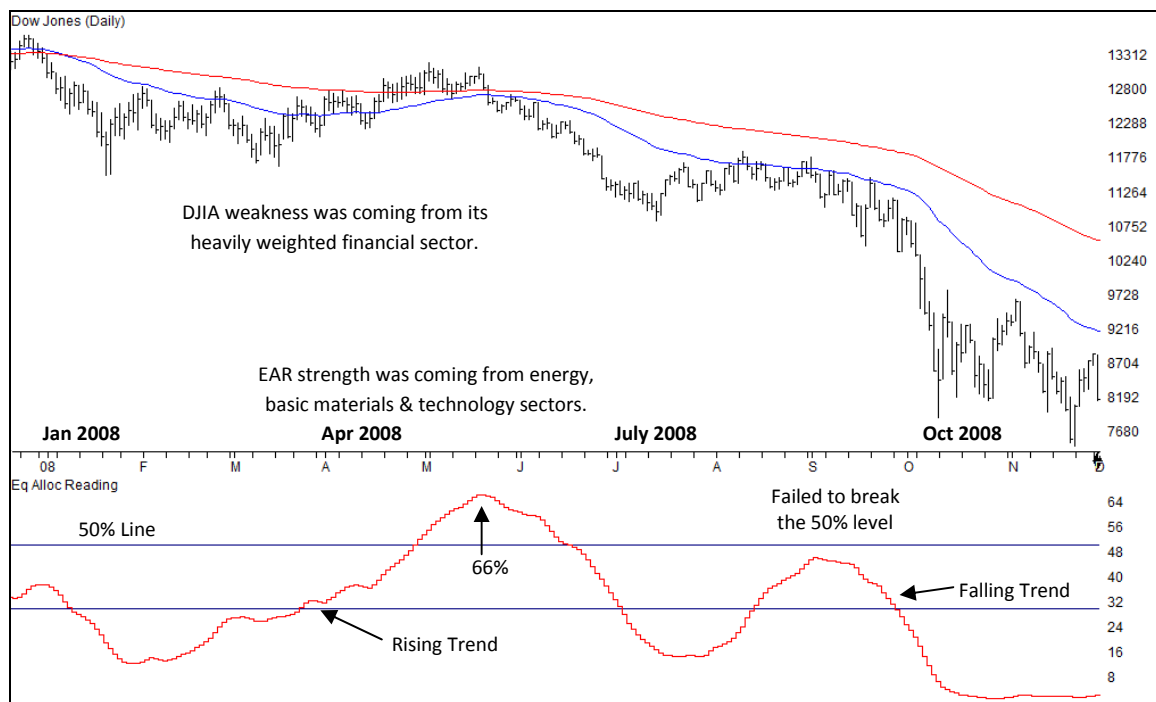
reduced. On March 13<sup>th</sup>, the indicator declined below 50% and equity holdings should be sold to equal the same.

While only needing a 10% reduction in equity holdings, there was no way of knowing the correction would be brief. Since the equity allocation reading is a composite of individual stock trends and a good reflection of the market's internal condition, I simply follow it without being over analytical.

By April 10, 2007, EAR rose above 50% indicating that demand may be returning to the market. The Dow Jones Industrial Average soared from 12,573 on that date to 14,000 on July 19<sup>th</sup> for a 12% gain while the equity allocation should have remained over 50%.

During the eleven-month bull market, the equity allocation reading kept a fair amount of assets invested in equities. The risk-adjustment rule would have aggressive investors' maximum equity exposure at 90% level, while conservative investors peaked at 50%.

Since we studied the equity allocation reading during a good market period, I'll review how it performed under the most tumultuous conditions.



Source: Track Data Corp. Charts provided by AIQ Systems, <http://aiqsystems.com>. Past performance is no guarantee of future results. An investment cannot be made directly in a market index.

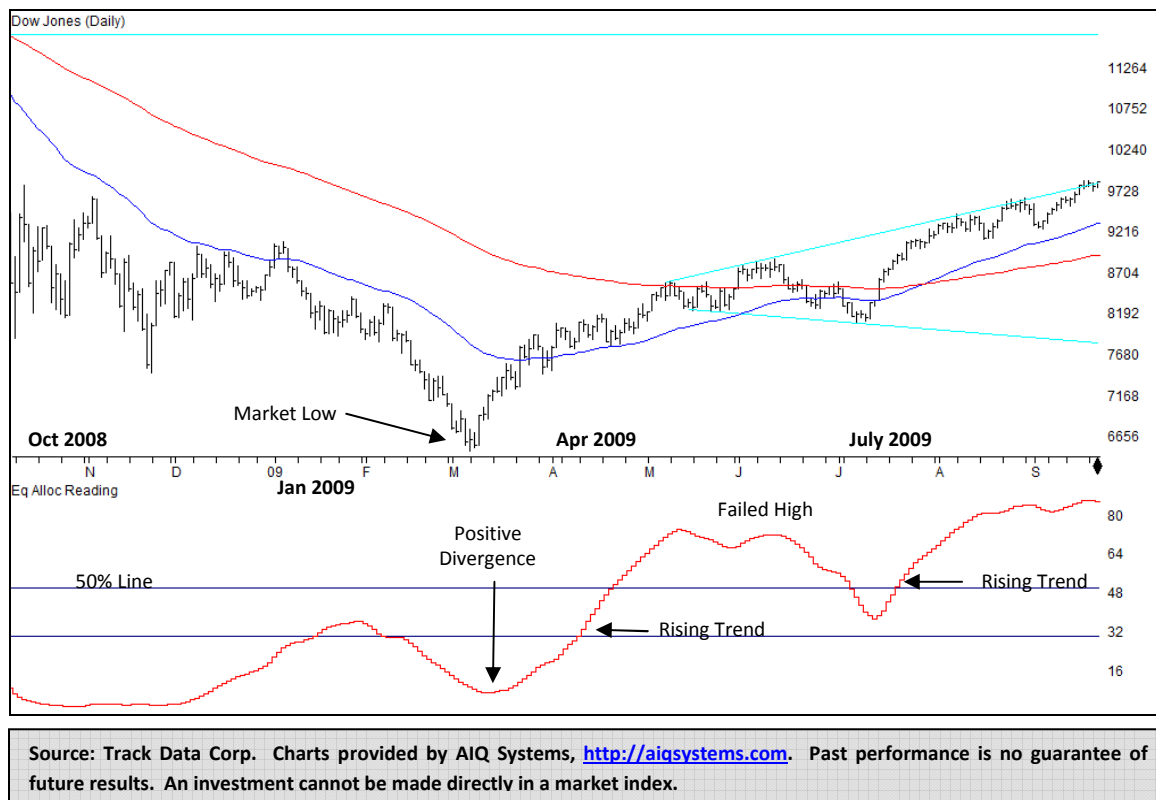
With the Dow Jones Industrial Average falling over 6,700 points from its October 2007 record high, the year of 2008 for buy-and-hold investors will likely be remembered as one of the most distressful experiences in market history. However, investors who followed the equity allocation reading that I use had a different journey with their portfolio (Past performance is no guarantee of future results).

As the graph above shows, the equity allocation reading made a low in January 2008, and then began to rise nearly four months peaking at 66% in May. Surely, it had signaled a bull market condition by moving above the 50% level, but the DJIA didn't reflect the equity allocation reading's bullishness, nor will 2008 likely be remembered for what performed well during the first six months of the year.

By reviewing the list of stocks having a bullish EMA alignment during the spring of 2008 explains it all. Oil prices went parabolic and anything that was linked to energy had dramatic price gains; which included: oil drillers, oil servicing, oil distributors and alternative energy, along with strength from the basic material sector.

The bullish EMA alignment's scan list would have revealed which stocks or sectors were in an uptrend. Those were the securities to invest in. The Dow Jones Industrial Average struggled well before its autumn collapse from having a heavy weighting in the financial sector which had a bearish moving-average alignment.

The equity allocation reading declined through June and July with a low at 14% before rising again and peaking on September 3<sup>rd</sup> at 46%. Failing to rally above 50% was an ominous sign for a very weak stock market. As the indicator accelerated downwards during September, the whole market unraveled for what was to become an unprecedented collapse.



As shown in the chart above, the equity allocation reading remained near zero until December when a slight rally began to take hold. A small exposure to equities would

have been in a portfolio heading into the New Year. The selling continued into early 2009 until the DJIA hit a low of 6,469 on March 6<sup>th</sup>. But EAR set up a positive divergence which signaled that a market rally may be coming. A strong rally into June ensued until the indicator had failed to confirm the market's high. After a one-month correction, the equity allocation reading re-established a rising trend, and as of September 2009, the Dow Jones Industrial Average had a 50% rally from its March lows and equity allocation should have achieved an 80% level in a portfolio.

By simply following the equity allocation reading, a portfolio can remain in-sync with the stock market; risk adjustments are made at a reading above or below the previous 10% interval; and I believe in these examples that the goal to minimize the “human element” was achieved.

The bullish EMA alignment scan list becomes the basis in which I can drill deeper into what securities are moving the market. From this list, I can rank stocks by their relative performance to further analyze what securities to purchase. I'll discuss that topic in Part II of my equity risk-management discipline.

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<sup>i</sup> Edwards, Robert D. and John Magee, *Technical Analysis of Stock Trends*, Fifth Edition, Boston, MA: John Magee, 1966. Multiple reissues since. Last hardcover was Ninth Edition, 2007, edited by W.H.C. Bassetti and published by CRC Press, Taylor & Francis Group, Boca Raton, FL, ISBN: 0-8493-3772-0.

<sup>ii</sup> Murphy, John J., *Technical Analysis of the Financial Markets*, 1999, New York Institute of Finance, Paramus, NJ, ISBN: 0-7352-0066-1

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S&P 500 Index is an unmanaged, market value-weighted index of 500 stocks generally representative of the broad stock market. An investment cannot be made directly in a market index.

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