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## We Never Deal in Certainties <br> Approach to the Markets

1. In this report we attempt to outline an overview of our approach to the stock market.

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S\&P 500
2076.78

30-YEAR
3.17\%

10-YEAR
2.38\%

GOLD
\$1169
2. Although I began my career as a straight Graham and Dodd fundamental analyst, it did not take long for me to realize that there is much more to the stock market than value.
3. Benjamin Graham himself understood that there was much more to stock market pricing than intrinsic value. On pages 42 and 43 of the 1962 edition of Graham and Dodd's 'Security Analysis', Graham makes clear that value is only one component of the various factors that determine market price.
4. "The influence of what we call analytical factors (value) over the market price is both partial and indirect. Partial because it frequently competes with purely speculative factors which influence the price in the opposite direction; and indirect, because it acts through the intermediary of people's sentiments and decisions. In other words, the market is not a weighing machine, on which the value of each issue is recorded by an exact and impersonal mechanism, in accordance with specific qualities. Rather we say that the market is a voting machine whereon countless individuals register choices which are the product partly of reason and partly of emotion."
5. On page 43 Graham illustrates this idea. Note that Graham includes technical, manipulative and psychological factors, as well as earnings dividends and assets, as factors that determine market prices.
6. Graham groups the factors that determine market prices into: 1. Market factors 2. Future-value factors and 3 . Intrinsic-value factors.
7. All of these factors are filtered by the "attitude of the public."

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Relationship of Intrinsic Value Factors to Market Price
I. General market factors
II. Individual factors


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8. In sum, contrary to the belief of fundamentalists, Benjamin Graham, the father of value investing understood that there is more to market price than intrinsic value.
9. In fact, while in his treatise Graham considers the value approach to be a rational approach, and the technical approach to be a more speculative one, in later years Graham admitted that the value approach itself is a somewhat speculative one as well.
10. On March 11, 1955 Graham was asked to testify in Congress as to the prospects of another market crash similar to that of 1929. Graham discussed and described his intrinsic value method of stock analysis (84th Congress 1st Session March 11, 1955).
11. Senator J. William Fulbright is now remembered as a southern democratic senator who was a staunch segregationist who signed the Southern Manifesto. Fulbright was known for his business acumen and for a time, served as a special attorney in the Anti-Trust Division of the Justice Department. President Bill Clinton refers to Fulbright as his political mentor.
12. At that session of Congress, Fulbright was confused by Graham's description of intrinsic value investing. Fulbright grilled Graham and asked "When you find a special situation and you decide, just for illustration that you can buy it for $\$ 10$, and it is worth $\$ 30$, and you take a position, and then you cannot realize it until a lot of other people decide it is worth $\$ 30$, how is that process brought about-by advertising, or what happens?"

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13. To this question Graham replied, and this is a quote, "That is one of the mysteries of our business, and it is a mystery to me as well as to everybody else. We know from history that eventually the market catches up with value."
14. Graham did not have a rational explanation for the value approach. Why can a stock or the market not remain undervalued forever? Rather, he based his value approach strictly on experience and his perception of market history.
15. In reality Graham used history and experience to create "indicators" that have failed miserably in real time.
16.For example, Graham observed that in the past the stock market was at a "dangerously high level" when bond yields exceeded stock dividend yields (Pg. 22). During the span from 1926 to 1960 for which stock-yield data has been compiled by Standard \& Poor's, stock yields averaged $137 \%$ of bond yields. Of course since 1958 stock yields have been inferior to bond yields
17. In an address to students in 1946 Graham makes a long-term market call. He again bases his analysis on experience. "When you look at the stock market as a whole, you will find from experience that after it has advanced a good deal, it not only goes down, but it goes down to levels substantially below earlier high levels. Hence, it has always been possible to buy stocks at lower prices than the highest of previous moves, not of the current move... I think that past experience will bear out using this as a practical guide. Thus if you look at this chart of the Dow Jones Industrials, you can see there has never been a time in which the price level has broken out in a once-for-all or permanent way, from past area of fluctuations,"
18.Based on history from 1900 through 1946 Graham's assessment was correct.


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19.However, since breaking above the 1929 high in 1954, we have seen two strong lasting long term breakouts. First, the 22 year bull period from 1954 to 1966 , and second, that of the 18 year bull market from 1982 to 2000.
20. Graham's market call was obviously incorrect.

21. Graham made the same error nearly all market analysts have made. That is, to look at the stock market in statistical terms and assume what you see is what you get... that what has happened in the past will necessarily repeat in the future.
22. In reality, conventional statistical analysis does not apply to stock prices.
23. The stock market is an economic system not a physical system.
24. Behavior of the stock market cannot be compared to the emission of alpha particles in radioactive decay. Nor can it be compared to a pair of dice, to a roulette wheel or a quincunx board.
25.In physical systems, history and experience are not necessary components for analysis. The outcomes are inherent within the system itself. Trial error and history are not necessary in determining the odds of snake eyes or that of 8 reds in a row. All that is necessary is the understanding of the physical system itself. The statistical odds are a throw-off of the inherent attributes of the system itself.
26. The fact that in the stock market, experience and history are necessary in an to attempt to

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determine future outcomes is itself a proof that standard statistical analysis is not a valid predictor of future outcomes.
27. The capital markets do not function as a physical system. Historical returns may never again be replicable. Capitalist regimes may be replaced by socialist regimes, communist regimes or worse. Regulation and taxation can in the future penalize productive enterprises. Heavily regulated industries may be liberalized. Tax rates may be lowered dramatically, or the supply of educated employees may dry up. The FED or central banks may mismanage the supply of money and credit and turn recession into depression or recovery into inflationary boom. Academics (Leland and Rubinstein) may create investment programs such as 'Portfolio Insurance' that wreaks havoc and causes historic market dislocations (1987). Nobel prize winners may decide to enter the marketplace and create hedge fund programs that have no basis in reality. (Merton and Scholes', Long Term Capital Management L.P).
28. In short, unique factors that may or may not repeat or be repeatable, are included in market history, and therefore capital markets do not lend themselves to standard statistical analysis.
29. Despite this key limitation, we have spent more than 34 years developing indicators that allow us to generate long-term outstanding results trading the broad market. Admittedly, our methodology had a boost from the introduction of index based futures.
30. We follow more than 30,000 indicators on a daily basis. We are aware of the limitations of statistical analysis to the stock market.
31. On most days our indicators are telling us nothing of value. In fact, the returns on the S\&P 500 Index on most trading days can be considered random.
32. However, at short-term and medium-term and at long-term turning points, there are messages generated by the market that do add directional probability to the future move of the market.
33.I will give just two examples here. Most of my data and indicators are proprietary, and I guard them and disguise them in my reports. However, I will prove that even simple market indicators that are well known to the public, such as volume and price, can add value and high probability of future market direction.
34. Our first example is based on price alone. You are well aware of Professor Harry V. Roberts' statement (Graduate School of Business, University of Chicago 1949-1992, Journal of Finance Vol. 14 No. 1 March 1959) "that of all economic time series, the history of stock prices, both individual and aggregate, has probably been most widely and intensively studied." This statement was true in 1959, before opening in 1964 of the University of Chicago's Center for Research in Security Prices, and it is certainly true today 56 years later.
35.Roberts concludes that "patterns of technical analysis may be little if nothing more than a statistical artifact."
36. We have looked at stock prices themselves and agree that daily, weekly, monthly and yearly movements are generally random. However despite the general randomness, clear statistically significant patterns exist at turning points.
37. We will demonstrate some of those patterns, and in fact prove the significance of those patterns.
38. Let's look at the 5-day rate of change in the S\&P 500 from January 1928 through June 2015.

39. Note the standard curve. A statistician looking at this curve would give you the probabilities of stocks gaining or losing $1 \%$, or $3 \%$, or $5 \%$ etc. over a 5 -day period. This histogram is totally consistent with randomness.
40. It would seem impossible based on data from this graph alone to predict whether the market will gain or decline. That observation is true. Statisticians, Nobel prize winners, and Ibbotsen and Sinquefeld have determined that historical price action can be used to a limited extent to forecast the probabilities of return(Stocks, Bonds, Bills and Inflation: Historical returns (19261987) 1989 edition.

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41. The following graph illustrates a standard curve using 1,547,990 SAT scores in the year 2010.

Figure 1 SAT Scores in 2010

42. When a student sits for the SAT score, we cannot predict what his score will be. All we can determine are the probabilities of the student scoring 1700 or 1100 etc.
43. However, once a student takes the exam and scores 2400 , we can then determine with a high probability the likelihood that the student will excel in school etc.
44. So too while we cannot predict when the S\&P 500 will decline $-11 \%$ or gain $11 \%$ over a 5 -day period, once that + or - $11 \% 5$ - day period occurs we can predict with a high probability the subsequent direction of the market.
45. Looking at the following 2 charts, observe that since 1962, the S\&P 500 declined $-11 \%$ or more at or near important market lows in 1962, 1987, 1998, 2002, 2008 and 2011.
46. Note as well that the S\&P 500 gained $11 \%$ or more proximate to major lows in 1970, 1974, 1982, 1987, 2002 and 2008 and 2009.
47. The point here is that even if we cannot predict when extreme price movement will occur, when that extreme price movement does in fact occur, we can then predict with a strong probability what direction future moves in the market will be.
48. The key is to wait for the statistical extreme and then act upon it.


49. The second example highlights a volume-based indicator. The TRIN Index is another example of a simple and well known indicator we utilize.
50. TRIN measures the severity of upside volume or downside volume relative to the daily number of advancing stocks to declining stocks.
51. A TRIN of 1.00 is a neutral reading. A TRIN reading above 1.00 indicates that the ratio of downside volume to upside volume exceeded the ratio of decliners to advancers.
52. The following histogram depicts daily TRIN data from 1972 through June 1, 2015.
53. I have highlighted the two greatest TRIN readings in History. The TRIN of 12.50 on October 10, 2011, and the TRIN of 15.50 on January 8, 1988.

54. In these instances as well, while we cannot predict when we will see a TRIN reading at an extreme, when it does indeed take place, we know that there exists a strong probability of upside market movement ahead.
55. We are never dealing in certainties. We are finding areas in the market in which probabilities suggest a turning point or continuation move. We see the indicator extremes, use the history of those extremes to assess the probability of the directional move.

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56. We continually track more than 30,000 indicators. On a daily basis we are looking for extremes within those indicators. In many instances, at turning points we see clusters of extremes which increases the confidence in the indicator projections.
57. In order for an indicator to be effective, its signals must not be randomly distributed. Rather, historically, the signals must take place either at lows, highs, or at points of acceleration.
58. The stock market does not follow the laws of physics. Patterns that randomly appear in the stock market must be ignored by the serious market technician. However, indicators that in the past have generated a higher-than-average probability of either a turning point or of an acceleration phase, must never be ignored and must be acted upon.
59. As long as we maintain our indicator-based discipline, and trade our portfolio when probabilities are in our favor, we can be confident that we will over the intermediate-term exhibit returns that outperform the market by a great margin, while not generating the types of losses generated by most investors during bear market conditions.

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