STOCK ANALYSIS WORKSHOP

Value Investing: A Look at the Benjamin Graham Approach

By Maria Crawford Scott

Value investing is an approach that is widely used today by individual investors and portfolio managers. But the approach was originally formulated some 60 years ago with the publishing of Graham and Dodd's college textbook "Security Analysis." Benjamin Graham is properly credited as one of the "fathers" of value investing. And reviewing the philosophy of the originators can often prove enlightening.

Graham's approach focuses on the concept of an intrinsic value that is justified by a firm's assets, earnings, dividends, and financial strength. Focusing on this value, he felt, would prevent an investor from being misled by the misjudgments often made by the market during periods of deep pessimism or euphoria.

Graham outlined his philosophy for the lay investor in his book "The Intelligent Investor," first written in 1947 and updated periodically (by Graham); it is the primary source for this article.

Why Value Stocks: The Philosophy

Graham felt that it would be difficult for investors to "beat the market," that is, to find stocks that will do much better than the overall long-term market average. Stocks that will do better than average over the long term are those with greater growth, but the difficulty is finding those in advance.

The problem for investors, he reasoned, is twofold. First, even stocks with obvious growth prospects don't necessarily translate into extra profits for an investor because those prospects are incorporated into the price of the stock.

Second, there is the risk that the investor will be wrong about the firm's growth prospects. Graham felt that this risk is accentuated by the psychology of the stock market, where the "tides of pessimism and euphoria which sweep the market" could mislead investors into overvaluing or undervaluing a stock.

In short, over the long term most investors can only expect an average return, but there is the added risk of underperformance due to misjudgment.

Instead of seeking a way to produce above-average returns, Graham proposed a method to reduce the risk of misjudgment. He suggested that investors first determine an "intrinsic" value for a stock that is independent of the market. Graham never fully explained how to determine "intrinsic" value and admitted that it requires considerable investment judgment. However, he felt that a firm's tangible assets were a particularly important component; other factors included earnings, dividends, financial strength, and stability. Graham felt investors should limit their purchases to stocks selling not far above this value, while stocks selling below their intrinsic value would offer an even better margin of safety to investors.

Graham felt investors should view themselves as the owners of a business, with the goal of buying a sound and expanding business at a rational price, regardless of what the stock market might say. And a successful investment, he said, is a result of the dividends produced and the long-range trend of the average market value of the stock.

Types of Investors

Graham felt that individual investors fell into two camps: "defensive" investors and "aggressive" or "enterprising" investors. These two groups are distinguished not by the amount of risk they are willing to take, but rather by the amount of "intelligent effort" they are "willing and able to bring to bear on the task." Thus, for instance, he included in the defensive investor category professionals (his example—a doctor) unable to devote much time to the process and young investors (his example—a sharp young executive interested in finance) who are as-yet unfamiliar and inexperienced with investing.

Graham felt that the defensive investor should confine his holdings to the shares of important companies with a long record of profitable operations and that are in strong financial condition. By "important," he meant one of substantial size and

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with a leading position in the industry, ranking among the first quarter or first third in size within its industry group.

Aggressive investors, Graham felt, could expand their universe substantially, but purchases should be attractively priced as established by intelligent analysis. He also suggested that aggressive investors avoid new issues.

Value Stock Criteria for Defensive Investors

Graham suggested that conservative investors buy issues selling at prices that are reasonably close to their per share tangible asset (book) value (total assets excluding intangible assets such as goodwill and patents, less all liabilities), and no more than one-third above that figure. He cautioned, however, that this criterion alone does not indicate a sound investment. In addition, the company should be in a sufficiently strong financial position, with the prospect that its earnings will at least be maintained over the years, and its stock must be selling at a satisfactory ratio of earnings to price.

In "The Intelligent Investor," Graham laid out a specific set of rules for defensive investors:

- Adequate size: Exclude small companies with less than $100 million of annual sales for industrial companies and $50 million of total sales for public utilities. Graham specified these levels in 1972, over 20 years ago. Obviously, firms have grown; assuming a 5% annual growth rate, these levels would roughly translate into sales today of $340 million for industrial companies and sales of $170 million for public utilities.
- Strong financial condition: For industrial companies, current assets (cash, accounts receivable and inventory) should be at least twice current liabilities (short-term debt), and long-term debt should not exceed the net current assets (working capital, or current assets less current liabilities); for public utilities the debt should not exceed twice the stockholders' equity (total assets less total liabilities).
- Earnings stability: Positive earnings for at least the last five years.
- Strong dividend record: Uninterrupted dividend payments for at least the past 20 years.
- Earnings growth: Minimum increase of at least one-third in earnings per share in the past 10 years (a 2.9% average annual growth rate over 10 years).
- Moderate price-to-earnings ratio: The current price should not be more than 15 times average earnings for the past three years.
- Moderate price-to-book-value ratio: The current price should not be more than 1½ times the last reported book value.

Graham noted that a price-earnings ratio below 15 could justify a higher price-to-book-value ratio. As a rule of thumb, he proposed that the product of two should not exceed 22.5. For instance, an issue selling at 2.25 times book value could be justified if it were selling at 10 times earnings (10 × 2.25 = 22.5).

At the time he was writing, Graham viewed utilities as particularly attractive for defensive investors, which is why the criteria includes adjustments specifically for utilities. Graham felt these firms fulfilled his criteria well and were selling at particularly attractive prices at the time.

Graham certainly intended to skew a defensive investor's portfolio away from "growth" stocks, which he viewed as more likely to be overvalued and risky, and in today's environment, these criteria will continue to exclude these kinds of firms. However, investors should be aware of this tendency when employing this approach. In addition, because of the emphasis on book value, which excludes intangibles, the criteria will tend to exclude firms that have considerable assets in the form of goodwill, patents, software, franchises, etc. In particular, this would include firms that are service-oriented, and those that are in the computer and technology sectors, areas of the market that have become much larger and more important than in Graham's day.

Enterprising Investors

Graham used the criteria for defensive investors as a base for "enterprising" investors to consider, but proposed that they could relax some of the rules. Among his suggested possibilities:

- Size: Select from a wider universe of stocks.
- Financial condition: Current assets should be at least 1½ times current liabilities, and debt should not be more than 110% of net current assets.
- Dividend record: Some level of dividend payments.
- Price-to-book-value ratio: The price should be less than 120% of net tangible assets.

He also suggested that the criteria be more flexible, allowing positive attributes in one rule (for instance, large average earnings) to compensate for small negatives (such as negative earnings in a bad environment) in another. Nonetheless, these criteria, like those for the defensive investor, will tend to exclude industries with large intangible assets.

Graham proposed several fertile areas for enterprising investors to investigate.

One area was to look among large unpopular companies, indicated by a low price relative to current earnings. While small companies may also be undervalued, Graham felt that there was a much greater risk that they would not be able to sustain themselves through a period of adversity. In addition, he thought the market's neglect of these firms resulted in slow recognition of better earnings, extending the period of unpopularity. Graham did warn against being fooled by low price-earnings ratios among cyclicals in their good years, since the market recognizes that those high earnings will not be sustained. To avoid this, he suggested an additional requirement that the price be low in relation to past average earnings.

The second area Graham suggested was to look for "bargains," particularly among secondary stocks.

Graham defined a "bargain" as a stock that is selling for 50% or less than its "indicated" value. The indicated value can be gleaned either by estimating future earnings or by valuing it as a private business, which includes a judgment concerning future earnings, but in addition pays attention to the value of realizable assets, with particular emphasis on working capital less all debt.

The Benjamin Graham Approach in Brief

Philosophy and style

Investment in companies whose share prices are near their intrinsic value based on tangible assets, earnings, dividends, financial strength and stability, and quality of management. Buying at or below intrinsic value provides a margin of "protection" that can help absorb unfavorable developments, with subsequently less risk of a market overreaction on the downside.

Universe of stocks

For "defensive" investors: High-grade dividend-paying common stocks of leading companies; saw utilities as particularly fertile ground. For "enterprising" investors: No restrictions; stocks of unpopular large companies and secondary companies (ones that are not leaders in a fairly important industry) considered particularly promising.

Criteria for initial consideration

- Exclude small companies with less than $100 million of annual sales for industrial companies and $50 million of total sales for public utilities in 1972 dollars. In today's market, this would roughly translate into sales of $340 million for industrial companies and total sales of $170 million for public utilities (assuming 5% annual growth).
- Strong financial condition—for industrial companies, current assets (cash, accounts receivable and inventory) should be at least twice current liabilities (short-term debt) and long-term debt should not exceed the net current assets (working capital, or current assets less current liabilities); for public utilities the debt should not exceed twice the stockholders' equity (total assets less total liabilities). For "enterprising" investors, he relaxed some of this criteria: current assets should be at least 1½ times current liabilities, and debt should not be more than 110% of net current assets.
- Positive earnings for at least the last five years.
- Uninterrupted dividend payments for at least past 20 years; for "enterprising" investors, some current dividend.
- Minimum increase of at least one-third in per share earnings in the past 10 years (2.9% average annual growth rate).
- Current price should not be more than 15 times average earnings for the past three years.
- Current price should not be more than 1½ times book value last reported, but price-earnings ratio below 15 could justify higher multiplier of assets. [Rule of thumb: product of the multiplier times ratio of price to book value should not exceed 22.5]. For "enterprising" investors, he suggested trying to find firms selling at two-thirds or less of book value.

Secondary factors

Skeptical as to accuracy of subjective judgments concerning growth prospects and management; good management indicated by a good long-term track record.

In terms of financial strength, surplus cash and no outstanding issues ahead of the common stock is preferable to firms with large bank loans and senior securities, but modest amount of bonds or preferred stock not necessarily a disadvantage, nor is moderate use of seasonal bank credit.

Stock monitoring and when to sell

Emphasized diversification—minimum of 10 different issues and maximum of 30.

Buy and hold for the long term and try to ignore market vagaries. Review holdings at least annually in light of intrinsic value and if no shrinkage, continue to hold. Sell if issues rise "excessively" above their intrinsic value and can be replaced by issues much more reasonably priced.

The most obvious bargain, according to Graham, was one selling for less than its net working capital alone—in essence, the investor would be purchasing a company without paying for its plants and machinery, or any intangibles.

Of course, it is necessary for investors to distinguish between undervalued stocks and those that are properly selling at low prices relative to value. For that reason, Graham suggested that aggressive investors also look for reasonable stability of earnings over the past decade, with no years of negative earnings, and enough financial size and strength that would allow the firm to survive any future setbacks.

Graham thought enterprising investors could also find success investing in secondary companies if purchased as bargains. A secondary company is defined by Graham as one that is a smaller concern in an important industry, or a top firm in an unimportant industry; many mid-sized listed companies, Graham noted, would fit this definition.

In general, Graham felt the stock market tends to undervalue these firms. At the same time, he believed these firms were large enough to sustain themselves through various economic environments, with the ability to earn a fair return on invested capital; investors would thus profit both from earnings paid in dividends and those that were reinvested. And in bull markets, he noted, the price of these firms often advances to full valuation.

Secondary Factors

Clearly, any investor needs some understanding of business and economic conditions and will form some opinion concerning the prospects of a firm or industry. But Graham was distrustful of subjective factors and felt that they could mislead investors as much as help them. Thus, he preferred basing

Putting a Value on a Stock

How do you value a stock? That, of course, is the heart of any stock analysis.

Based on his observations of stocks over the years, Benjamin Graham developed one model that uses an earnings multiplier; this approach is to be distinguished from his notion of "intrinsic" value and simply provides another check on valuations. His original formulation was based on AAA corporate bond interest rates prevailing at the time (about 4.4%); the formula below adjusts for current interest rates:

$$\text{Value} = [\text{EPS}(8.5 + 2g)]\,\frac{4.4}{\text{AAA}}$$

where g is the expected annual earnings growth rate for the next seven to 10 years, EPS is the earnings per share for the most recent 12 months, AAA is the current interest rate on AAA-rated corporate bonds, and (8.5 + 2g) is the earnings multiplier.

Clearly the expected annual growth rate over the next seven to 10 years is critical. Historical rates provide a starting point, although they may not be indicative of future rates. But using the proper historical rate requires considerable investment judgment.

As an example, the earnings growth rate for the Dow Jones industrial average is 7.8% over the past 10 years, 6.4% over the past 15 years, and 16.5% for the next two years based on consensus estimates for 1996 and 1997 (reported in Barron's). Using the current earnings per share of $314.02 and a 7.6% AAA corporate bond rate, the equation produces the following values:

DJIA valuation estimate based on:

10-year historical growth: $314.02[8.5 + 2(7.8)]4.4/7.6 = 4381

15-year historical growth: $314.02[8.5 + 2(6.4)]4.4/7.6 = 3872

2-year projected growth: $314.02[8.5 + 2(16.5)]4.4/7.6 = 7544

Currently, the Dow is at 5500 which, by reversing the equation, implies that the market expects a growth rate of 10.9%.

The Graham approach was developed for the average stock with average risk, and it does not adjust for stocks with greater than average risk. As risk increases, earnings multipliers should decline. Yet investors are often overly optimistic, assuming future earnings growth that cannot be maintained over the long run. If you are using the model, make sure you are conservative in your estimate of future earnings growth to reduce the tendency to estimate unrealistically high values. For instance, don't use rates that are higher than their historical averages or that are considerably higher than the historical market average, and don't use historical growth rates derived from a starting time period of unusually low earnings or an ending period of unusually high earnings. If you are going to err, make sure you err conservatively, rather than over-optimistically.

decisions on quantitative, rather than qualitative, factors.

He noted in his book that an investor's "operations for profit should be based not on optimism but on arithmetic."

Stock Monitoring and When to Sell

Graham was a strong believer in defensive investing and protecting a portfolio against errors in judgment. For that reason, he placed a heavy emphasis on diversification. He recommended that individuals purchase a minimum of 10 different issues and a maximum of 30.

Stock holdings should be reviewed at least annually, he said, paying attention to dividend returns and the operating results of the company, and ignoring share price fluctuations. However, if the holdings were properly valued originally, he felt there would be little need for changes.

Graham felt that as long as the earnings power of the holdings remained satisfactory, the investor should stick with the stock and ignore any market movements, particularly on the downside. On the other hand, investors should take advantage of market fluctuations on the upside, when a stock becomes overvalued (or fairly valued for stocks that were purchased at below their intrinsic value); at these times, investors should sell and replace their holding with one that is more fairly valued or undervalued.

Graham in Summary

Graham's emphasis on tangible assets may need modifications for current use in light of the many companies whose lines of business depend heavily on intangibles. But his concern with value relative to price maintains its relevance.

Graham summarized his own philosophy by stating that intelligent investing consists of analyzing potential purchases according to sound business principles. This includes: an understanding of what you are doing, making your own decisions, ensuring that you are not risking a substantial portion of your original investment, and sticking to your own judgments without regard to market opinion.

"You are neither right nor wrong because the crowd disagrees with you," he said. "You are right because your data and reasoning are right. In the world of securities, courage becomes the supreme virtue after adequate knowledge and a tested judgment are at hand."