

Benjamin Graham

by Bruce Greenwald

A brilliant investor and magnetic teacher, Benjamin Graham contributed more to the development of modern professional investment practices than any other single individual. He created an approach to analyzing securities that even today, seventy years after his pioneering work, is the basis for the success of a strikingly large fraction of outstanding investors.

The idea that business practices, even in agriculture, should be the object of professional study and continuous improvement is a surprisingly recent one. From Roman times until roughly 1800, there appears to have been no significant increase in economic productivity and hence no measurable improvement in average global standards of living. From 1800 to 1850, economic growth began at a relatively slow but steady pace in Europe and North America. Relatively rapid improvements in living standards only arrived in the latter half of the nineteenth century. Adjusting for inflation, the wages of American workers rose by about 70 percent in the forty years between 1850 and 1890, doubled between 1890 and 1930 and, despite the Depression, tripled between 1930 and 1970. Life expectancy over this period rose from 41 to 70 years. Since 1970, modern standards of living have begun to spread beyond Europe and North America, most notably to Japan, China, India, and other parts of Asia.

Although scientific progress provided the basis for these changes, it is notable that the relevant developments in science preceded the rise in living standards by many years. The proximate cause of rising productivity appears to have been the systematic application of technology though sustained attention to improving business (including agricultural) practices.

The acceleration in economic growth in the late nineteenth century coincided with the emergence of “scientific” management and its dissemination through universities and other institutions, like the Agricultural Extension Service in the United States.

Formal business education in the United States arrived in 1824, when James Gordon Bennett established his “Permanent Commercial School” in New York. He taught reading, elocution, penmanship, basic math and science, history, geography and languages. Specific business training consisted of commercial law and political economy. Although Bennett’s school soon disappeared, similar institutions flourished, producing notable graduates like Henry Ford (Detroit Business University), John D. Rockefeller (Dyke College of Cleveland), Thomas Watson (Elmira, NY School of Commerce), and even Herbert Hoover (Capital College of Business, before Stanford).

Focused college-level business education did not arrive until 1881, when the University of Pennsylvania began to offer undergraduate business courses through its Wharton School, followed by the University of Chicago and the University of California in 1898. Graduate business school courses were first available in 1900, when the Tuck School opened at Dartmouth. Harvard Business School was established in 1908, and Columbia Business School in 1916.

This latter period from the 1880s through the early 1900s also saw the developments of “scientific management” associated with Frederick W. Taylor. Taylor introduced systematic time-and-motion studies and other pioneering innovations at the Midvale Steel Company in the 1880s, doubling productivity within a decade. His approach, known as Taylorism, was widely disseminated, although controversial, throughout the 1890s. It led ultimately to a number of broadly based disciplines devoted to improvements in business operations, including statistical

production control, organizational theory, linear programming, and other mathematically based optimization techniques.

However, when Benjamin Graham, aged 17, enrolled at Columbia in 1911, very little of this had penetrated the College curriculum. He majored in mathematics, but took an eclectic mix of courses, notably in philosophy, foreign languages and English (but not Latin, which Graham felt he had mastered sufficiently at Townsend Harris High School in New York). He did so well at Columbia that when he graduated in 1914, he was offered the opportunity to stay and teach not only mathematics but also, separately, English and philosophy.

Despite the strong appeal of an academic career, Graham took a job on Wall Street. This was partly a matter of economic necessity. Graham had worked steadily throughout his college years, providing an important source of income for the household of his widowed mother and brothers, and graduation did not relieve him of this financial responsibility. But the influence of Dean Frederick Keppel, who felt that educated Columbians had a great deal to offer America's important business institutions, also figured in Graham's decision. Keppel also helped arrange a job for Graham at the firm of Newberger, Henderson and Loeb as a bond salesman.

When Graham arrived on Wall Street in 1914, speculation was the dominant factor in securities markets. "In 1914, [the] mass of financial information [about companies] was largely going to waste." Graham wrote. "What counted most was inside information of various kinds, some of it relating to business operations. . . but more of it to the current activities and plans of market manipulators, the famous 'They' who were responsible for all significant moves, up and down."

Financial analysis of company operations was relatively rare, superficial and largely limited to bonds rather than stocks. The available guidance for fledgling investors consisted

chiefly of a standard text, *The Principles of Bond Investment*, by Laurence Chamberlain.

Nothing like today's range of books, courses and academic literature on investing existed.

What Graham did have increasingly available was published financial information on the companies whose securities were for sale. This was issued by the companies themselves and disseminated in standard formats by firms like Standard and Poor's. It was also reported to regulatory bodies, like the Interstate Commerce Commission, where it could be examined by the investing public, although few investors chose to do so. Graham, with his academic orientation, was naturally drawn to this data. His "school training had made (him) searching, reflective and critical," he recalled later, and that enabled him to "respond readily to the new forces that were beginning to enter the financial scene."

Graham began by looking at situations where the intrinsic value of a stock could be calculated with some precision. In 1915, the Guggenheim Exploration Company planned to dissolve and distribute its holdings to shareholders. These holdings consisted of shares in other copper mining companies, which, like Guggenheim shares, were quoted on the New York Stock Exchange. Graham calculated that the value of such non-Guggenheim shares held by Guggenheim exceeded the value of Guggenheim stock. As a result, buying Guggenheim represented an advantageous purchase of known assets—in Graham's terms an "investment," not a "speculation." Furthermore, by selling appropriate amounts of the shares of the constituent holdings (this could be done even if one did not currently own the stock, a practice known as "shorting") Graham could lock in this gain. When the Guggenheim Company dissolved and distributed the constituent shares, these shares could be delivered to satisfy the earlier purchases. The success of this operation contributed both to Graham's reputation and his emerging investment philosophy.

Graham developed methods for identifying the intrinsic value of the securities that he bought or sold. In the Guggenheim case, this was a matter of simple arithmetic. In other situations, Graham would examine in detail the individual assets on a company's published balance sheet, assigning values to them based on the accounting numbers. To cash, accounts receivable and other current assets, he assigned values close to the officially published figures. To plant, equipment, and less tangible assets, he assigned conservative values below the published figures, using his carefully developed knowledge of the industry in question. From this asset value, he would subtract the full published value of liabilities to arrive at a "net" asset value. Then Graham would compare his calculated value for a company to the price at which it was selling in the stock market (the number of shares outstanding times the price per share). He found wide variations in the relationship between his calculated values and the market prices of essentially similar enterprises. Sometimes the stock market price of a company (e.g., a railroad) would exceed its calculated "net" asset value by 2 or more times. A similar company (e.g., another nearby railroad) would trade at half or less of its calculated value. Graham, of course, concentrated his stock (and bond) purchases on the latter companies with striking success.

Later Graham learned to cross-check these asset-based valuations with valuations derived from a company's potential earnings. Thus, he not only looked at whether a company's assets could be acquired in the stock market at a discount, but also verified that the returns these assets were likely to earn in the future justified his basic judgment of intrinsic value. For example, if Graham thought a company's net assets were worth \$8 million and an appropriate return on those assets was 10 percent (based on what investors were earning in other comparable investments), then he looked at the company's published income statements to verify that future earnings were likely to exceed \$800,000 per annum.

If the earnings picture satisfied this criterion, then when the company was selling in the stock market for \$4 million (e.g., 1 million shares outstanding at \$4 per share), Graham would buy its stock with redoubled confidence. Graham's basic approach was to look at the underlying economic reality and assiduously collect the relevant information from as many perspectives as possible. It was a natural outgrowth of his broad and rigorous education at Columbia.

The wonder of all this was that such a common-sensical approach should be so revolutionary. But as Graham noted market prices of stocks were anything but rationally determined. In a memorable passage he wrote,

Imagine that in some private business you own a small share. One of your partners, named Mr. Market, is very obliging. Everyday he tells you what he thinks your interest is worth and offers either to buy you out or to sell to you an additional interest on that basis. Sometimes his idea of value appears plausible. Often, on the other hand, Mr. Market lets his enthusiasm or his fears run away with him and the value he proposes seems to you a little short of silly. If you are a prudent investor will you let Mr. Market's daily communication determine your view of the value of the enterprise? You may be happy to sell out to him when he quotes a ridiculously high price and equally happy to buy from him when his price is low. But the rest of the time you will be wiser to value your holdings based on full reports from the company about its operations and financial position.

In financial markets, where speculative fever dominated investor behavior, the benefits of Graham's scientific approach were manifest.

One of the earliest beneficiaries was Graham himself, and not just in his personal investments. Graham embodied his insights in written reports to investors that circulated on Wall Street. One such report on the Missouri Pacific Railroad reached a partner at J. S. Bache soon after Graham's arrival at Newberger. Impressed by this work, Bache offered Graham a job

in their “statistical” department at \$18 per week, a 50 percent increase over his salary as a rookie bond salesman. In response, Newberger offered Graham a raise to \$15 per week and the opportunity to establish a “statistical” department at the firm, specializing in Graham’s new approach to investment analysis. Graham gratefully accepted this counteroffer, beginning what he describes as his “real and definitive career as a security analyst.” He later learned that if he had gone to Bache, Newberger would have resolved never to hire another “college man.”

By the beginning of 1920, Graham had become a junior partner at Newberger, Henderson and Loeb. He had expanded the statistical department, now known as the “research” department, to include an assistant, another Columbia graduate two years his junior. In addition, he had achieved a significant reputation as an investor and was managing discretionary accounts for family, friends and favored customers.

However, all this activity failed to occupy Graham fully. In 1917, he had become partners in a phonograph shop with his brother, had trained actively with the US Army Reserve in the hope of participating in World War I, and had published an article in the *American Mathematical Monthly*. In 1918, he began a flourishing career as a financial writer, contributing technical material regularly to the *Magazine of Wall Street*, at the time a leading financial publication.

In 1923, Graham left Newberger to work for a series of financial partnerships in which he received a share of the profits for managing contributed funds. These efforts culminated in 1926 in a partnership with Jerome Newman (a graduate of both Columbia College and the Law School) in what subsequently became the Graham-Newman Corporation, where he worked until his retirement until 1956. During this period, while accumulating substantial personal wealth, Graham remained dedicated to the task of professionalizing investment practices. In the fall of

1927, he taught a course called “Security Analysis” at the Extension Division of Columbia. It was heavily oversubscribed, including an assistant professor at Columbia Business School named David Dodd. Beginning in the fall of 1928, Graham and Dodd offered Security Analysis together at the Columbia Business School. Taught continuously until 1954, the course was enormously popular, spawning the book *Security Analysis* (1934) by Graham and Dodd.

*Security Analysis* was Graham’s masterpiece. There were four more editions, in 1940, 1951, 1962, and 1988. Copies of the first edition now sell for up to \$20,000. Still in print today, it remains an important text for modern investment analysts. The book articulated the basic approach to security valuation and investment decisions developed by Graham with Dodd’s help. approach to security valuation and investment decisions developed by Graham with Dodd’s help. As importantly, it showed with constantly updated examples how those principles could be applied by creatively seeking and systematically analyzing relevant company data. Together, the book and the course trained generations of remarkable investors whose loyalty to Graham’s ideas and subsequent investment success constitute a major part of his legacy. The list is led by Warren Buffett, the most successful investor in financial history, who was drawn to Columbia by Graham’s book, took Graham’s course in the early 1950s, and later worked for Graham before establishing his own notable investment partnership. Other investors on the list are Walter Schloss, Irving Kahn, William Ruane, Charles Munger, David “Sandy” Gottesman, Tom Knapp, Robert Heilbrunn, Ed Anderson, Jack Alexander, and Max Heine, all of whom were either direct disciples of Graham’s or became closely connected to him after reading *Security Analysis*. Later generations of Graham and Dodd investors, including Mario Gabelli, Charles Royce, Robert Bruce, John Neff, Michael Price and Seth Klarman, either were students of Roger Murray, Graham and Dodd’s successor at Columbia and coauthor of a later edition of *Security Analysis*,

or were influenced strongly by Graham's writings. Their extraordinary record of investment success over decades (in defiance of the laws of simple probability) is an enduring tribute to the value of Graham's work.

On the heels of the publication of *Security Analysis*, Graham was a major force behind the formation of the New York Society of Security Analysts. Established in 1935 by an informal group of like-minded investment research analysts, the society was dedicated to the development of professional standards in security research and investment practices. To that end, Graham proposed in 1942 that a board of qualifiers of the NYSSA certify financial analysts who met prescribed requirements. This proposal was later adopted by the Institute of Chartered Financial Analysts (another group Graham nurtured) and survives today as the widely respected CFA certification process. Graham was also an important early contributor to the *Financial Analyst's Journal* (then called the *Analyst's Journal*) which is still a respected vehicle for disseminating financial and security analysis research. The current organizational structure of the modern financial analysis profession owes an enormous debt to Graham.

In 1949, urged to produce a book for serious non-professional investors, Graham wrote *The Intelligent Investor*, his best known work. Reissued in 1954, 1959 and 1973 editions, *The Intelligent Investor* more than 50 years after its initial publication is still one of the best-selling books for serious investors. Graham had a gift not only for clear thinking but also for effective exposition. With its distinction between investing and speculating, its use of comparative investment choices to clarify the underlying concept of intrinsic value, its focus on controlling risk by seeking a margin of safety between price and value, and its compelling metaphor of Mr. Market (see above), *The Intelligent Investor* is a classic of financial exposition. As a description

of sound investment practices for nonprofessionals, the book has rarely, if ever, been equaled. Recently reissued in a fifth edition, it continues to sell over 30,000 copies per year.

Graham's career was not limited to Wall Street. After his formal retirement in 1956 and move to California, he taught for fifteen years as a Regents Professor at UCLA's business school. He was a continuing source of advice to his former students. In 1968, at the initiative of Warren Buffett, who was troubled by contemporary stock market conditions, a distinguished group met with Graham (then 74 years old) in San Diego to seek his advice. The experience was so valuable that the group continued to meet with Graham on a regular basis until the end of his life. Graham also enjoyed a distinguished career as an expert consultant on economic and financial matters that ran parallel to his career in investments. In 1937, he published *Storage and Stability*, which presented an innovative system of general commodity (as opposed to gold and silver) backing for U.S. currency. Graham's proposal, which he advocated further in *World Commodities and World Currency* (1944), was never adopted, but received respectful attention from the economic policy community. Finally, Graham wrote a number of plays; one of them, *Baby Pompadour*, opened on Broadway in December 1934 (it closed after four performances). Graham attributed the breadth of his interests in great measure to his Columbia education.

After Graham's death in 1976 at the age of 82, his approach to investment analysis was for a time eclipsed by modern portfolio theory, which emphasized the unpredictability of individual stock returns. However, more recent statistical work on stock price behavior in the U.S. and around the world has tended to confirm his original insights, contrary to academic orthodoxy. And applications of behavioral psychology to economic decisionmaking, for which Daniel Kahneman won the Nobel Prize in 2002, have provided strong support for Graham's approach. The behavioral finance literature offers an explanation of the mystery of why all

investors don't follow an approach like Graham's, with simple statistical decision rules that would outperform portfolios constructed by 95 percent of investment professionals, a rate verified by world-wide, long-term statistical studies. The reason may be that deep-seated psychological drives rule investors' decisions, overriding financial fundamentals.

In the world of practical investment management, Graham's general contributions have been so completely absorbed that they are bred into the bone of basic investment practice. At the same time, his more particular followers who practice "Graham-and-Dodd-style value investing" continue to perform significantly better than average investors.