Appendixes

1. The Superinvestors of Graham-and-Doddsville

by Warren E. Buffett

EDITOR'S NOTE: *This article is an edited transcript of a talk given at Columbia University in 1984 commemorating the fiftieth anniversary of* Security Analysis, *written by Benjamin Graham and David L. Dodd. This specialized volume first introduced the ideas later popularized in* The Intelligent Investor. *Buffett's essay offers a fascinating study of how Graham's disciples have used Graham's value investing approach to realize phenomenal success in the stock market.*

Is the Graham and Dodd "look for values with a significant margin of safety relative to prices" approach to security analysis out of date? Many of the professors who write textbooks today say yes. They argue that the stock market is efficient; that is, that stock prices reflect everything that is known about a company's prospects and about the state of the economy. There are no undervalued stocks, these theorists argue, because there are smart security analysts who utilize all available information to ensure unfailingly appropriate prices. Investors who seem to beat the market year after year are just lucky. "If prices fully reflect available information, this sort of investment adeptness is ruled out," writes one of today's textbook authors.

Well, maybe. But I want to present to you a group of investors who have, year in and year out, beaten the Standard & Poor's 500 stock index. The hypothesis that they do this by pure chance is at

least worth examining. Crucial to this examination is the fact that these winners were all well known to me and pre-identified as superior investors, the most recent identification occurring over fifteen years ago. Absent this condition—that is, if I had just recently searched among thousands of records to select a few names for you this morning—I would advise you to stop reading right here. I should add that all these records have been audited. And I should further add that I have known many of those who have invested with these managers, and the checks received by those participants over the years have matched the stated records.

Before we begin this examination, I would like you to imagine a national coin-flipping contest. Let's assume we get 225 million Americans up tomorrow morning and we ask them all to wager a dollar. They go out in the morning at sunrise, and they all call the flip of a coin. If they call correctly, they win a dollar from those who called wrong. Each day the losers drop out, and on the subsequent day the stakes build as all previous winnings are put on the line. After ten flips on ten mornings, there will be approximately 220,000 people in the United States who have correctly called ten flips in a row. They each will have won a little over $1,000.

Now this group will probably start getting a little puffed up about this, human nature being what it is. They may try to be modest, but at cocktail parties they will occasionally admit to attractive members of the opposite sex what their technique is, and what marvelous insights they bring to the field of flipping.

Assuming that the winners are getting the appropriate rewards from the losers, in another ten days we will have 215 people who have successfully called their coin flips 20 times in a row and who, by this exercise, each have turned one dollar into a little over $1 million. $225 million would have been lost, $225 million would have been won.

By then, this group will really lose their heads. They will probably write books on "How I Turned a Dollar into a Million in Twenty Days Working Thirty Seconds a Morning." Worse yet, they'll probably start jetting around the country attending seminars on efficient coin-flipping and tackling skeptical professors with, "If it can't be done, why are there 215 of us?"

But then some business school professor will probably be rude enough to bring up the fact that if 225 million orangutans

had engaged in a similar exercise, the results would be much the same—215 egotistical orangutans with 20 straight winning flips.

I would argue, however, that there *are* some important differences in the examples I am going to present. For one thing, if (a) you had taken 225 million orangutans distributed roughly as the U.S. population is; if (b) 215 winners were left after 20 days; and if (c) you found that 40 came from a particular zoo in Omaha, you would be pretty sure you were on to something. So you would probably go out and ask the zookeeper about what he's feeding them, whether they had special exercises, what books they read, and who knows what else. That is, if you found any really extraordinary concentrations of success, you might want to see if you could identify concentrations of unusual characteristics that might be causal factors.

Scientific inquiry naturally follows such a pattern. If you were trying to analyze possible causes of a rare type of cancer—with, say, 1,500 cases a year in the United States—and you found that 400 of them occurred in some little mining town in Montana, you would get very interested in the water there, or the occupation of those afflicted, or other variables. You know that it's not random chance that 400 come from a small area. You would not necessarily know the causal factors, but you would know where to search.

I submit to you that there are ways of defining an origin other than geography. In addition to geographical origins, there can be what I call an *intellectual* origin. I think you will find that a disproportionate number of successful coin-flippers in the investment world came from a very small intellectual village that could be called Graham-and-Doddsville. A concentration of winners that simply cannot be explained by chance can be traced to this particular intellectual village.

Conditions could exist that would make even that concentration unimportant. Perhaps 100 people were simply imitating the coin-flipping call of some terribly persuasive personality. When he called heads, 100 followers automatically called that coin the same way. If the leader was part of the 215 left at the end, the fact that 100 came from the same intellectual origin would mean nothing. You would simply be identifying one case as a hundred cases. Similarly, let's assume that you lived in a strongly patriarchal society

and every family in the United States conveniently consisted of ten members. Further assume that the patriarchal culture was so strong that, when the 225 million people went out the first day, every member of the family identified with the father's call. Now, at the end of the 20-day period, you would have 215 winners, and you would find that they came from only 21.5 families. Some naive types might say that this indicates an enormous hereditary factor as an explanation of successful coin-flipping. But, of course, it would have no significance at all because it would simply mean that you didn't have 215 individual winners, but rather 21.5 randomly distributed families who were winners.

In this group of successful investors that I want to consider, there has been a common intellectual patriarch, Ben Graham. But the children who left the house of this intellectual patriarch have called their "flips" in very different ways. They have gone to different places and bought and sold different stocks and companies, yet they have had a combined record that simply can't be explained by random chance. It certainly cannot be explained by the fact that they are all calling flips identically because a leader is signaling the calls to make. The patriarch has merely set forth the intellectual theory for making coin-calling decisions, but each student has decided on his own manner of applying the theory.

The common intellectual theme of the investors from Graham-and-Doddsville is this: they search for discrepancies between the *value* of a business and the *price* of small pieces of that business in the market. Essentially, they exploit those discrepancies without the efficient market theorist's concern as to whether the stocks are bought on Monday or Thursday, or whether it is January or July, etc. Incidentally, when businessmen buy businesses—which is just what our Graham & Dodd investors are doing through the medium of marketable stocks—I doubt that many are cranking into their purchase decision the day of the week or the month in which the transaction is going to occur. If it doesn't make any difference whether all of a business is being bought on a Monday or a Friday, I am baffled why academicians invest extensive time and effort to see whether it makes a difference when buying small pieces of those same businesses. Our Graham & Dodd investors, needless to say, do not discuss beta, the capital asset pricing model, or covariance in returns among securities. These are not subjects of

any interest to them. In fact, most of them would have difficulty defining those terms. The investors simply focus on two variables: price and value.

I always find it extraordinary that so many studies are made of price and volume behavior, the stuff of chartists. Can you imagine buying an entire business simply because the price of the business had been marked *up* substantially last week and the week before? Of course, the reason a lot of studies are made of these price and volume variables is that now, in the age of computers, there are almost endless data available about them. It isn't necessarily because such studies have any utility; it's simply that the data are there and academicians have worked hard to learn the mathematical skills needed to manipulate them. Once these skills are acquired, it seems sinful not to use them, even if the usage has no utility or negative utility. As a friend said, to a man with a hammer, everything looks like a nail.

I think the group that we have identified by a common intellectual home is worthy of study. Incidentally, despite all the academic studies of the influence of such variables as price, volume, seasonality, capitalization size, etc., upon stock performance, no interest has been evidenced in studying the methods of this unusual concentration of value-oriented winners.

I begin this study of results by going back to a group of four of us who worked at Graham-Newman Corporation from 1954 through 1956. There were only four—I have not selected these names from among thousands. I offered to go to work at Graham-Newman for nothing after I took Ben Graham's class, but he turned me down as overvalued. He took this value stuff very seriously! After much pestering he finally hired me. There were three partners and four of us at the "peasant" level. All four left between 1955 and 1957 when the firm was wound up, and it's possible to trace the record of three.

The first example (see Table 1, pages 549–550) is that of Walter Schloss. Walter never went to college, but took a course from Ben Graham at night at the New York Institute of Finance. Walter left Graham-Newman in 1955 and achieved the record shown here over 28 years.

Here is what "Adam Smith"—after I told him about Walter—wrote about him in *Supermoney* (1972):

> He has no connections or access to useful information. Practically no one in Wall Street knows him and he is not fed any ideas. He looks up the numbers in the manuals and sends for the annual reports, and that's about it.
>
> In introducing me to [Schloss] Warren had also, to my mind, described himself. "He never forgets that he is handling other people's money and this reinforces his normal strong aversion to loss." He has total integrity and a realistic picture of himself. Money is real to him and stocks are real—and from this flows an attraction to the "margin of safety" principle.

Walter has diversified enormously, owning well over 100 stocks currently. He knows how to identify securities that sell at considerably less than their value to a private owner. *And that's all he does.* He doesn't worry about whether it's January, he doesn't worry about whether it's Monday, he doesn't worry about whether it's an election year. He simply says, if a business is worth a dollar and I can buy it for 40 cents, something good may happen to me. And he does it over and over and over again. He owns many more stocks than I do—and is far less interested in the underlying nature of the business: I don't seem to have very much influence on Walter. That's one of his strengths; no one has much influence on him.

The second case is Tom Knapp, who also worked at Graham-Newman with me. Tom was a chemistry major at Princeton before the war; when he came back from the war, he was a beach bum. And then one day he read that Dave Dodd was giving a night course in investments at Columbia. Tom took it on a noncredit basis, and he got so interested in the subject from taking that course that he came up and enrolled at Columbia Business School, where he got the MBA degree. He took Dodd's course again, and took Ben Graham's course. Incidentally, 35 years later I called Tom to ascertain some of the facts involved here and I found him on the beach again. The only difference is that now he owns the beach!

In 1968 Tom Knapp and Ed Anderson, also a Graham disciple, along with one or two other fellows of similar persuasion, formed Tweedy, Browne Partners, and their investment results appear in Table 2. Tweedy, Browne built that record with very wide diversification. They occasionally bought control of businesses, but the record of the passive investments is equal to the record of the control investments.

Table 3 describes the third member of the group who formed Buffett Partnership in 1957. The best thing he did was to quit in 1969. Since then, in a sense, Berkshire Hathaway has been a continuation of the partnership in some respects. There is no single index I can give you that I would feel would be a fair test of investment management at Berkshire. But I think that any way you figure it, it has been satisfactory.

Table 4 shows the record of the Sequoia Fund, which is managed by a man whom I met in 1951 in Ben Graham's class, Bill Ruane. After getting out of Harvard Business School, he went to Wall Street. Then he realized that he needed to get a real business education so he came up to take Ben's course at Columbia, where we met in early 1951. Bill's record from 1951 to 1970, working with relatively small sums, was far better than average. When I wound up Buffett Partnership I asked Bill if he would set up a fund to handle all our partners, so he set up the Sequoia Fund. He set it up at a terrible time, just when I was quitting. He went right into the two-tier market and all the difficulties that made for comparative performance for value-oriented investors. I am happy to say that my partners, to an amazing degree, not only stayed with him but added money, with the happy result shown.

There's no hindsight involved here. Bill was the only person I recommended to my partners, and I said at the time that if he achieved a four-point-per-annum advantage over the Standard & Poor's, that would be solid performance. Bill has achieved well over that, working with progressively larger sums of money. That makes things much more difficult. Size is the anchor of performance. There is no question about it. It doesn't mean you can't do better than average when you get larger, but the margin shrinks. And if you ever get so you're managing two trillion dollars, and that happens to be the amount of the total equity evaluation in the economy, don't think that you'll do better than average!

I should add that in the records we've looked at so far, throughout this whole period there was practically no duplication in these portfolios. These are men who select securities based on discrepancies between price and value, but they make their selections very differently. Walter's largest holdings have been such stalwarts as Hudson Pulp & Paper and Jeddo Highland Coal and New York Trap Rock Company and all those other names that come instantly to mind to even a casual reader of the business pages. Tweedy

Browne's selections have sunk even well below that level in terms of name recognition. On the other hand, Bill has worked with big companies. The overlap among these portfolios has been very, very low. These records do not reflect one guy calling the flip and fifty people yelling out the same thing after him.

Table 5 is the record of a friend of mine who is a Harvard Law graduate, who set up a major law firm. I ran into him in about 1960 and told him that law was fine as a hobby but he could do better. He set up a partnership quite the opposite of Walter's. His portfolio was concentrated in very few securities and therefore his record was much more volatile but it was based on the same discount-from-value approach. He was willing to accept greater peaks and valleys of performance, and he happens to be a fellow whose whole psyche goes toward concentration, with the results shown. Incidentally, this record belongs to Charlie Munger, my partner for a long time in the operation of Berkshire Hathaway. When he ran his partnership, however, his portfolio holdings were almost completely different from mine and the other fellows mentioned earlier.

Table 6 is the record of a fellow who was a pal of Charlie Munger's—another non–business school type—who was a math major at USC. He went to work for IBM after graduation and was an IBM salesman for a while. After I got to Charlie, Charlie got to him. This happens to be the record of Rick Guerin. Rick, from 1965 to 1983, against a compounded gain of 316 percent for the S&P, came off with 22,200 percent, which, probably because he lacks a business school education, he regards as statistically significant.

One sidelight here: it is extraordinary to me that the idea of buying dollar bills for 40 cents takes immediately with people or it doesn't take at all. It's like an inoculation. If it doesn't grab a person right away, I find that you can talk to him for years and show him records, and it doesn't make any difference. They just don't seem able to grasp the concept, simple as it is. A fellow like Rick Guerin, who had no formal education in business, understands immediately the value approach to investing and he's applying it five minutes later. I've never seen anyone who became a gradual convert over a ten-year period to this approach. It doesn't seem to be a matter of IQ or academic training. It's instant recognition, or it is nothing.

Table 7 is the record of Stan Perlmeter. Stan was a liberal arts major at the University of Michigan who was a partner in the advertising agency of Bozell & Jacobs. We happened to be in the same building in Omaha. In 1965 he figured out I had a better business than he did, so he left advertising. Again, it took five minutes for Stan to embrace the value approach.

Perlmeter does not own what Walter Schloss owns. He does not own what Bill Ruane owns. These are records made *independently.* But every time Perlmeter buys a stock it's because he's getting more for his money than he's paying. That's the only thing he's thinking about. He's not looking at quarterly earnings projections, he's not looking at next year's earnings, he's not thinking about what day of the week it is, he doesn't care what investment research from any place says, he's not interested in price momentum, volume, or anything. He's simply asking: What is the business worth?

Table 8 and Table 9 are the records of two pension funds I've been involved in. They are not selected from dozens of pension funds with which I have had involvement; they are the only two I have influenced. In both cases I have steered them toward value-oriented managers. Very, very few pension funds are managed from a value standpoint. Table 8 is the Washington Post Company's Pension Fund. It was with a large bank some years ago, and I suggested that they would do well to select managers who had a value orientation.

As you can see, overall they have been in the top percentile ever since they made the change. The Post told the managers to keep at least 25 percent of these funds in bonds, which would not have been necessarily the choice of these managers. So I've included the bond performance simply to illustrate that this group has no particular expertise about bonds. They wouldn't have said they did. Even with this drag of 25 percent of their fund in an area that was not their game, they were in the top percentile of fund management. The Washington Post experience does not cover a terribly long period but it does represent many investment decisions by three managers who were not identified retroactively.

Table 9 is the record of the FMC Corporation fund. I don't manage a dime of it myself but I did, in 1974, influence their decision to select value-oriented managers. Prior to that time they had selected managers much the same way as most larger companies. They now

rank number one in the Becker survey of pension funds for their size over the period of time subsequent to this "conversion" to the value approach. Last year they had eight equity managers of any duration beyond a year. Seven of them had a cumulative record better than the S&P. All eight had a better record last year than the S&P. The net difference now between a median performance and the actual performance of the FMC fund over this period is $243 million. FMC attributes this to the mindset given to them about the selection of managers. Those managers are not the managers I would necessarily select but they have the common denominator of selecting securities based on value.

So these are nine records of "coin-flippers" from Graham-and-Doddsville. I haven't selected them with hindsight from among thousands. It's not like I am reciting to you the names of a bunch of lottery winners—people I had never heard of before they won the lottery. I selected these men years ago based upon their framework for investment decision-making. I knew what they had been taught and additionally I had some personal knowledge of their intellect, character, and temperament. It's very important to understand that this group has assumed far less risk than average; note their record in years when the general market was weak. While they differ greatly in style, these investors are, mentally, always *buying the business, not buying the stock.* A few of them sometimes buy whole businesses. Far more often they simply buy small pieces of businesses. Their attitude, whether buying all or a tiny piece of a business, is the same. Some of them hold portfolios with dozens of stocks; others concentrate on a handful. But all exploit the difference between the market price of a business and its intrinsic value.

I'm convinced that there is much inefficiency in the market. These Graham-and-Doddsville investors have successfully exploited gaps between price and value. When the price of a stock can be influenced by a "herd" on Wall Street with prices set at the margin by the most emotional person, or the greediest person, or the most depressed person, it is hard to argue that the market always prices rationally. In fact, market prices are frequently nonsensical.

I would like to say one important thing about risk and reward. Sometimes risk and reward are correlated in a positive fashion. If someone were to say to me, "I have here a six-shooter and I have

slipped one cartridge into it. Why don't you just spin it and pull it once? If you survive, I will give you $1 million." I would decline—perhaps stating that $1 million is not enough. Then he might offer me $5 million to pull the trigger twice—now that would be a positive correlation between risk and reward!

The exact opposite is true with value investing. If you buy a dollar bill for 60 cents, it's riskier than if you buy a dollar bill for 40 cents, but the expectation of reward is greater in the latter case. The greater the potential for reward in the value portfolio, the less risk there is.

One quick example: The Washington Post Company in 1973 was selling for $80 million in the market. At the time, that day, you could have sold the assets to any one of ten buyers for not less than $400 million, probably appreciably more. The company owned the *Post, Newsweek,* plus several television stations in major markets. Those same properties are worth $2 billion now, so the person who would have paid $400 million would not have been crazy.

Now, if the stock had declined even further to a price that made the valuation $40 million instead of $80 million, its beta would have been greater. And to people who think beta measures risk, the cheaper price would have made it look riskier. This is truly Alice in Wonderland. I have never been able to figure out why it's riskier to buy $400 million worth of properties for $40 million than $80 million. And, as a matter of fact, if you buy a group of such securities and you know anything at all about business valuation, there is essentially no risk in buying $400 million for $80 million, particularly if you do it by buying ten $40 million piles for $8 million each. Since you don't have your hands on the $400 million, you want to be sure you are in with honest and reasonably competent people, but that's not a difficult job.

You also have to have the knowledge to enable you to make a very general estimate about the value of the underlying businesses. But you do not cut it close. That is what Ben Graham meant by having a margin of safety. You don't try and buy businesses worth $83 million for $80 million. You leave yourself an enormous margin. When you build a bridge, you insist it can carry 30,000 pounds, but you only drive 10,000-pound trucks across it. And that same principle works in investing.

In conclusion, some of the more commercially minded among

you may wonder why I am writing this article. Adding many converts to the value approach will perforce narrow the spreads between price and value. I can only tell you that the secret has been out for 50 years, ever since Ben Graham and Dave Dodd wrote *Security Analysis,* yet I have seen no trend toward value investing in the 35 years that I've practiced it. There seems to be some perverse human characteristic that likes to make easy things difficult. The academic world, if anything, has actually backed away from the teaching of value investing over the last 30 years. It's likely to continue that way. Ships will sail around the world but the Flat Earth Society will flourish. There will continue to be wide discrepancies between price and value in the marketplace, and those who read their Graham & Dodd will continue to prosper.

Tables 1–9 follow:

TABLE 1 Walter J. Schloss

Year	S&P Overall Gain, Including Dividends (%)	WJS Ltd Partners Overall Gain per year (%)	WJS Partnership Overall Gain per year (%)
1956	7.5	5.1	6.8
1957	–10.5	–4.7	–4.7
1958	42.1	42.1	54.6
1959	12.7	17.5	23.3
1960	–1.6	7.0	9.3
1961	26.4	21.6	28.8
1962	–10.2	8.3	11.1
1963	23.3	15.1	20.1
1964	16.5	17.1	22.8
1965	13.1	26.8	35.7
1966	–10.4	0.5	0.7
1967	26.8	25.8	34.4
1968	10.6	26.6	35.5

Standard & Poor's 28¼ year compounded gain	887.2%
WJS Limited Partners 28¼ year compounded gain	6,678.8%
WJS Partnership 28¼ year compounded gain	23,104.7%
Standard & Poor's 28¼ year annual compounded rate	8.4%
WJS Limited Partners 28¼ year annual compounded rate	16.1%
WJS Partnership 28¼ year annual compounded rate	21.3%

During the history of the Partnership it has owned over 800 issues and, at most times, has had at least 100 positions. Present assets under management approximate $45 million. The difference between returns of the partnership and returns of the limited partners is due to allocations to the general partner for management.

TABLE 1 Walter J. Schloss *(continued)*

Year	S&P Overall Gain, Including Dividends (%)	WJS Ltd Partners Overall Gain per year (%)	WJS Partnership Overall Gain per year (%)
1969	–7.5	–9.0	–9.0
1970	2.4	–8.2	–8.2
1971	14.9	25.5	28.3
1972	19.8	11.6	15.5
1973	–14.8	–8.0	–8.0
1974	–26.6	–6.2	–6.2
1975	36.9	42.7	52.2
1976	22.4	29.4	39.2
1977	–8.6	25.8	34.4
1978	7.0	36.6	48.8
1979	17.6	29.8	39.7
1980	32.1	23.3	31.1
1981	6.7	18.4	24.5
1982	20.2	24.1	32.1
1983	22.8	38.4	51.2
1984 1st Qtr.	2.3	0.8	1.1

TABLE 2 Tweedy, Browne Inc.

Period Ended (September 30)	Dow Jones* (%)	S & P 500* (%)	TBK Overall (%)	TBK Limited Partners (%)
1968 (9 mos.)	6.0	8.8	27.6	22.0
1969	–9.5	–6.2	12.7	10.0
1970	–2.5	–6.1	–1.3	–1.9
1971	20.7	20.4	20.9	16.1
1972	11.0	15.5	14.6	11.8
1973	2.9	1.0	8.3	7.5
1974	–31.8	–38.1	1.5	1.5
1975	36.9	37.8	28.8	22.0
1976	29.6	30.1	40.2	32.8
1977	–9.9	–4.0	23.4	18.7
1978	8.3	11.9	41.0	32.1
1979	7.9	12.7	25.5	20.5
1980	13.0	21.1	21.4	17.3
1981	–3.3	2.7	14.4	11.6
1982	12.5	10.1	10.2	8.2
1983	44.5	44.3	35.0	28.2
Total Return 15¾ years	191.8%	238.5%	1,661.2%	936.4%
Standard & Poor's 15¾ year annual compounded rate				7.0%
TBK Limited Partners 15¾ year annual compounded rate				16.0%
TBK Overall 15¾ year annual compounded rate				20.0%

* Includes dividends paid for both Standard & Poor's 500 Composite Index and Dow Jones Industrial Average.

TABLE 3 Buffett Partnership, Ltd.

Year	Overall Results From Dow (%)	Partnership Results (%)	Limited Partners' Results (%)
1957	–8.4	10.4	9.3
1958	38.5	40.9	32.2
1959	20.0	25.9	20.9
1960	–6.2	22.8	18.6
1961	22.4	45.9	35.9
1962	–7.6	13.9	11.9
1963	20.6	38.7	30.5
1964	18.7	27.8	22.3
1965	14.2	47.2	36.9
1966	–15.6	20.4	16.8
1967	19.0	35.9	28.4
1968	7.7	58.8	45.6
1969	–11.6	6.8	6.6
On a cumulative or compounded basis, the results are:			
1957	–8.4	10.4	9.3
1957–58	26.9	55.6	44.5
1957–59	52.3	95.9	74.7
1957–60	42.9	140.6	107.2
1957–61	74.9	251.0	181.6
1957–62	61.6	299.8	215.1
1957–63	94.9	454.5	311.2
1957–64	131.3	608.7	402.9
1957–65	164.1	943.2	588.5
1957–66	122.9	1156.0	704.2
1957–67	165.3	1606.9	932.6
1957–68	185.7	2610.6	1403.5
1957–69	152.6	2794.9	1502.7
Annual Compounded Rate	7.4	29.5	23.8

TABLE 4 Sequoia Fund, Inc.

Year	*Annual Percentage Change*** Sequoia Fund (%)	S&P 500 Index * (%)
1970 (from July 15)	12.1	20.6
1971	13.5	14.3
1972	3.7	18.9
1973	–24.0	–14.8
1974	–15.7	–26.4
1975	60.5	37.2
1976	72.3	23.6
1977	19.9	–7.4
1978	23.9	6.4
1979	12.1	18.2
1980	12.6	32.3
1981	21.5	–5.0
1982	31.2	21.4
1983	27.3	22.4
1984 (first quarter)	–1.6	–2.4
Entire Period	775.3%	270.0%
Compound Annual Return	17.2%	10.0%
Plus 1% Management Fee	1.0%	
Gross Investment Return	18.2%	10.0%

* Includes dividends (and capital gains distributions in the case of Sequoia Fund) treated as though reinvested.

** These figures differ slightly from the S&P figures in Table 1 because of a difference in calculation of reinvested dividends.

TABLE 5 Charles Munger

Year	Mass. Inv. Trust (%)	Investors Stock (%)	Lehman (%)	Tri–Cont. (%)	Dow (%)	Overall Partnership (%)	Limited Partners (%)
Yearly Results (1)							
1962	–9.8	–13.4	–14.4	–12.2	–7.6	30.1	20.1
1963	20.0	16.5	23.8	20.3	20.6	71.7	47.8
1964	15.9	14.3	13.6	13.3	18.7	49.7	33.1
1965	10.2	9.8	19.0	10.7	14.2	8.4	6.0
1966	–7.7	–9.9	–2.6	–6.9	–15.7	12.4	8.3
1967	20.0	22.8	28.0	25.4	19.0	56.2	37.5
1968	10.3	8.1	6.7	6.8	7.7	40.4	27.0
1969	–4.8	–7.9	–1.9	0.1	–11.6	28.3	21.3
1970	0.6	–4.1	–7.2	–1.0	8.7	–0.1	–0.1
1971	9.0	16.8	26.6	22.4	9.8	25.4	20.6
1972	11.0	15.2	23.7	21.4	18.2	8.3	7.3
1973	–12.5	–17.6	–14.3	–21.3	–23.1	– 31.9	–31.9
1974	–25.5	–25.6	–30.3	–27.6	–13.1	–31.5	– 31.5
1975	32.9	33.3	30.8	35.4	44.4	73.2	73.2

Compound Results (2)							
1962	–9.8	–13.4	–14.4	–12.2	–7.6	30.1	20.1
1962–3	8.2	0.9	6.0	5.6	11.5	123.4	77.5
1962–4	25.4	15.3	20.4	19.6	32.4	234.4	136.3
1962–5	38.2	26.6	43.3	32.4	51.2	262.5	150.5
1962–6	27.5	14.1	39.5	23.2	27.5	307.5	171.3
1962–7	53.0	40.1	78.5	54.5	51.8	536.5	273.0
1962–8	68.8	51.4	90.5	65.0	63.5	793.6	373.7
1962–9	60.7	39.4	86.9	65.2	44.5	1046.5	474.6
1962–70	61.7	33.7	73.4	63.5	57.1	1045.4	474.0
1962–71	76.3	56.2	119.5	100.1	72.5	1336.3	592.2
1962–72	95.7	79.9	171.5	142.9	103.9	1455.5	642.7
1962–73	71.2	48.2	132.7	91.2	77.2	959.3	405.8
1962–74	27.5	40.3	62.2	38.4	36.3	625.6	246.5
1962–75	69.4	47.0	112.2	87.4	96.8	1156.7	500.1
Average Annual Compounded Rate	3.8	2.8	5.5	4.6	5.0	19.8	13.7

TABLE 6 Pacific Partners, Ltd.

Year	S & P 500 Index (%)	Limited Partnership Results (%)	Overall Partnership Results (%)
1965	12.4	21.2	32.0
1966	–10.1	24.5	36.7
1967	23.9	120.1	180.1
1968	11.0	114.6	171.9
1969	–8.4	64.7	97.1
1970	3.9	–7.2	–7.2
1971	14.6	10.9	16.4
1972	18.9	12.8	17.1
1973	–14.8	–42.1	–42.1
1974	–26.4	–34.4	–34.4
1975	37.2	23.4	31.2
1976	23.6	127.8	127.8
1977	–7.4	20.3	27.1
1978	6.4	28.4	37.9
1979	18.2	36.1	48.2
1980	32.3	18.1	24.1
1981	–5.0	6.0	8.0
1982	21.4	24.0	32.0
1983	22.4	18.6	24.8
Standard & Poor's 19 year compounded gain			316.4%
Limited Partners 19 year compounded gain			5,530.2%
Overall Partnership 19 year compounded gain			22,200.0%
Standard & Poor's 19 year annual compounded rate			7.8%
Limited Partners 19 year annual compounded rate			23.6%
Overall Partnership 19 year annual compounded rate			32.9%

TABLE 7 Perlmeter Investments

Year	PIL Overall (%)	Limited Partner (%)
8/1–12/31/65	40.6	32.5
1966	6.4	5.1
1967	73.5	58.8
1968	65.0	52.0
1969	–13.8	–13.8
1970	–6.0	–6.0
1971	55.7	49.3
1972	23.6	18.9
1973	–28.1	–28.1
1974	–12.0	–12.0
1975	38.5	38.5
1/1–10/31/76	38.2	34.5
11/1/76–10/31/77	30.3	25.5
11/1/77–10/31/78	31.8	26.6
11/1/78–10/31/79	34.7	28.9
11/1/79–10/31/80	41.8	34.7
11/1/80–10/31/81	4.0	3.3
11/1/81–10/31/82	29.8	25.4
11/1/82–10/31/83	22.2	18.4

Total Partnership Percentage Gain 8/1/65 through 10/31/83	4277.2%
Limited Partners Percentage Gain 8/1/65 through 10/31/83	2309.5%
Annual Compound Rate of Gain Overall Partnership	23.0%
Annual Compound Rate of Gain Limited Partners	19.0%
Dow Jones Industrial Average 7/31/65 (Approximate)	882
Dow Jones Industrial Average 10/31/83 (Approximate)	1225
Approximate Compound Rate of Gain of DJI including dividends	7%

TABLE 8 The Washington Post Company, Master Trust, December 31, 1983

	Current Quarter		Year Ended		2 Years Ended*		3 Years Ended*		5 Years Ended*	
	% Ret.	Rank	% Ret.	Rank	% Ret.	Rank	% Ret.	Rank	% Ret.	Rank
All Investments										
Manager A	4.1	2	22.5	10	20.6	40	18.0	10	20.2	3
Manager B	3.2	4	34.1	1	33.0	1	28.2	1	22.6	1
Manager C	5.4	1	22.2	11	28.4	3	24.5	1	—	—
Master Trust (All Managers)	3.9	1	28.1	1	28.2	1	24.3	1	21.8	1
Common Stock										
Manager A	5.2	1	32.1	9	26.1	27	21.2	11	26.5	7
Manager B	3.6	5	52.9	1	46.2	1	37.8	1	29.3	3
Manager C	6.2	1	29.3	14	30.8	10	29.3	3	—	—
Master Trust (All Managers)	4.7	1	41.2	1	37.0	1	30.4	1	27.6	1
Bonds										
Manager A	2.7	8	17.0	1	26.6	1	19.0	1	12.2	2
Manager B	1.6	46	7.6	48	18.3	53	12.7	84	7.4	86
Manager C	3.2	4	10.4	9	24.0	3	18.9	1	—	—
Master Trust (All Managers)	2.2	11	9.7	14	21.1	14	15.2	24	9.3	30
Bonds & Cash Equivalents										
Manager A	2.5	15	12.0	5	16.1	64	15.5	21	12.9	9
Manager B	2.1	28	9.2	29	17.1	47	14.7	41	10.8	44
Manager C	3.1	6	10.2	17	22.0	2	21.6	1	—	—
Master Trust (All Managers)	2.4	14	10.2	17	17.8	20	16.2	2	12.5	9

* Annualized

Rank indicates the fund's performance against the A.C. Becker universe.

Rank is stated as a percentile: 1 = best performance, 100 = worst.

TABLE 9 FMC Corporation Pension Fund, Annual Rate of Return (Percent)

Period ending	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years
FMC (Bonds and Equities Combined)									
1983	23.0								*17.1
1982	22.8	13.6	16.0	16.6	15.5	12.3	13.9	16.3	
1981	5.4	13.0	15.3	13.8	10.5	12.6	15.4		
1980	21.0	19.7	16.8	11.7	14.0	17.3			
1979	18.4	14.7	8.7	12.3	16.5				
1978	11.2	4.2	10.4	16.1					
1977	–2.3	9.8	17.8						
1976	23.8	29.3							
1975	35.0							* 18.5 from equities only	
Becker large plan median									
1983	15.6								12.6
1982	21.4	11.2	13.9	13.9	12.5	9.7	10.9	12.3	
1981	1.2	10.8	11.9	10.3	7.7	8.9	10.9		
1980	20.9	NA	NA	NA	10.8	NA			
1979	13.7	NA	NA	NA	11.1				
1978	6.5	NA	NA	NA					
1977	–3.3	NA	NA						
1976	17.0	NA							
1975	24.1								

TABLE 9 FMC Corporation Pension Fund, Annual Rate of Return (Percent) *(continued)*

Period ending	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years
S&P 500									
1983	22.8								15.6
1982	21.5	7.3	15.1	16.0	14.0	10.2	12.0	14.9	
1981	–5.0	12.0	14.2	12.2	8.1	10.5	14.0		
1980	32.5	25.3	18.7	11.7	14.0	17.5			
1979	18.6	12.4	5.5	9.8	14.8				
1978	6.6	–0.8	6.8	13.7					
1977	7.7	6.9	16.1						
1976	23.7	30.3							
1975	37.2								