Here's our financial record since 1999, when the redirection of our business began in earnest. During the 18-year period covered, Berkshire's outstanding shares grew by only 8.3%, with most of the increase occurring when we purchased BNSF. That, I'm happy to say, was one issuance of stock that made good sense.

After-Tax Earnings
(in billions of dollars)

Year	Operations (1)	Capital Gains (2)	Year	Operations (1)	Capital Gains (2)
1999	0.67	0.89	2008	9.64	(4.65)
2000	0.94	2.39	2009	7.57	0.49
2001	(0.13)	0.92	2010	11.09	1.87
2002	3.72	0.57	2011	10.78	(0.52)
2003	5.42	2.73	2012	12.60	2.23
2004	5.05	2.26	2013	15.14	4.34
2005	5.00	3.53	2014	16.55	3.32
2006	9.31	1.71	2015	17.36	6.73
2007	9.63	3.58	2016	17.57	6.50

(1) Including interest and dividends from investments, but *excluding* capital gains or losses.

(2) In very large part, this tabulation includes only *realized* capital gains or losses. Unrealized gains and losses are also included, however, when GAAP requires that treatment.

Our expectation is that investment gains will continue to be substantial – though totally random as to timing – and that these will supply significant funds for business purchases. Concurrently, Berkshire's superb corps of operating CEOs will focus on increasing earnings at the individual businesses they manage, sometimes helping them to grow by making bolt-on acquisitions. By our avoiding the issuance of Berkshire stock, any improvement in earnings will translate into equivalent per-share gains.

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Our efforts to materially increase the normalized earnings of Berkshire will be aided – as they have been throughout our managerial tenure – by America's economic dynamism. One word sums up our country's achievements: miraculous. From a standing start 240 years ago – a span of time less than triple my days on earth – Americans have combined human ingenuity, a market system, a tide of talented and ambitious immigrants, and the rule of law to deliver abundance beyond any dreams of our forefathers.

You need not be an economist to understand how well our system has worked. Just look around you. See the 75 million owner-occupied homes, the bountiful farmland, the 260 million vehicles, the hyper-productive factories, the great medical centers, the talent-filled universities, you name it – they all represent a net gain for Americans from the barren lands, primitive structures and meager output of 1776. Starting from scratch, America has amassed wealth totaling $90 trillion.

It's true, of course, that American owners of homes, autos and other assets have often borrowed heavily to finance their purchases. If an owner defaults, however, his or her asset does not disappear or lose its usefulness. Rather, ownership customarily passes to an American lending institution that then disposes of it to an American buyer. Our *nation's* wealth remains intact. As Gertrude Stein put it, "Money is always there, but the pockets change."

Above all, it's our market system – an economic traffic cop ably directing capital, brains and labor – that has created America's abundance. This system has also been the primary factor in allocating rewards. Governmental redirection, through federal, state and local taxation, has in addition determined the distribution of a significant portion of the bounty.

America has, for example, decided that those citizens in their productive years should help both the old and the young. Such forms of aid – sometimes enshrined as "entitlements" – are generally thought of as applying to the aged. But don't forget that four million American babies are born each year with an entitlement to a public education. That societal commitment, largely financed at the local level, costs about $150,000 per baby. The annual cost totals more than $600 billion, which is about 3 ½% of GDP.

However our wealth may be divided, the mind-boggling amounts you see around you belong almost exclusively to Americans. Foreigners, of course, own or have claims on a modest portion of our wealth. Those holdings, however, are of little importance to our national balance sheet: *Our* citizens own assets abroad that are roughly comparable in value.

Early Americans, we should emphasize, were neither smarter nor more hard working than those people who toiled century after century before them. But those venturesome pioneers crafted a system that unleashed human potential, and their successors built upon it.

This economic creation will deliver increasing wealth to our progeny far into the future. Yes, the build-up of wealth will be interrupted for short periods from time to time. It will not, however, be stopped. I'll repeat what I've both said in the past and expect to say in future years: Babies born in America today are the luckiest crop in history.

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America's economic achievements have led to staggering profits for stockholders. During the 20th century the Dow-Jones Industrials advanced from 66 to 11,497, a 17,320% capital gain that was materially boosted by steadily increasing dividends. The trend continues: By yearend 2016, the index had advanced a further 72%, to 19,763.

American business – and consequently a basket of stocks – is virtually certain to be worth far more in the years ahead. Innovation, productivity gains, entrepreneurial spirit and an abundance of capital will see to that. Ever-present naysayers may prosper by marketing their gloomy forecasts. But heaven help them if they act on the nonsense they peddle.

Many companies, of course, will fall behind, and some will fail. Winnowing of that sort is a product of market dynamism. Moreover, the years ahead will occasionally deliver major market declines – even panics – that will affect virtually all stocks. No one can tell you when these traumas will occur – not me, not Charlie, not economists, not the media. Meg McConnell of the New York Fed aptly described the reality of panics: "We spend a lot of time looking for systemic risk; in truth, however, it tends to find us."

During such scary periods, you should never forget two things: First, widespread fear is your *friend* as an investor, because it serves up bargain purchases. Second, *personal* fear is your enemy. It will also be unwarranted. Investors who avoid high and unnecessary costs and simply sit for an extended period with a collection of large, conservatively-financed American businesses will almost certainly do well.

As for Berkshire, our size precludes a *brilliant* result: Prospective returns fall as assets increase. Nonetheless, Berkshire's collection of good businesses, along with the company's impregnable financial strength and owner-oriented culture, should deliver decent results. We won't be satisfied with less.

For a non-insurance company – which describes Berkshire Hathaway, the parent – the federal tax rate is effectively 10½ cents per $1 of dividends received. Furthermore, a non-insurance company that owns more than 20% of an investee owes taxes of only 7 cents per $1 of dividends. That rate applies, for example, to the substantial dividends we receive from our 27% ownership of Kraft Heinz, all of it held by the parent company. (The rationale for the low corporate taxes on dividends is that the dividend-paying investee has already paid its own corporate tax on the earnings being distributed.)

Berkshire's insurance subsidiaries pay a tax rate on dividends that is somewhat higher than that applying to non-insurance companies, though the rate is still well below the 35% hitting capital gains. Property/casualty companies owe about 14% in taxes on most dividends they receive. Their tax rate falls, though, to about 11% if they own more than 20% of a U.S.-based investee.

And that's our tax lesson for today.

"The Bet" (or how your money finds its way to Wall Street)

In this section, you will encounter, early on, the story of an investment bet I made nine years ago and, next, some strong opinions I have about investing. As a starter, though, I want to briefly describe Long Bets, a unique establishment that played a role in the bet.

Long Bets was seeded by Amazon's Jeff Bezos and operates as a non-profit organization that administers just what you'd guess: long-term bets. To participate, "proposers" post a proposition at Longbets.org that will be proved right or wrong at a distant date. They then wait for a contrary-minded party to take the other side of the bet. When a "doubter" steps forward, each side names a charity that will be the beneficiary if its side wins; parks its wager with Long Bets; and posts a short essay defending its position on the Long Bets website. When the bet is concluded, Long Bets pays off the winning charity.

Here are examples of what you will find on Long Bets' very interesting site:

In 2002, entrepreneur Mitch Kapor asserted that "By 2029 no computer – or 'machine intelligence' – will have passed the Turing Test," which deals with whether a computer can successfully impersonate a human being. Inventor Ray Kurzweil took the opposing view. Each backed up his opinion with $10,000. I don't know who will win this bet, but I will confidently wager that no computer will ever replicate Charlie.

That same year, Craig Mundie of Microsoft asserted that pilotless planes would routinely fly passengers by 2030, while Eric Schmidt of Google argued otherwise. The stakes were $1,000 each. To ease any heartburn Eric might be experiencing from his outsized exposure, I recently offered to take a piece of his action. He promptly laid off $500 with me. (I like his assumption that I'll be around in 2030 to contribute my payment, should we lose.)

Now, to my bet and its history. In Berkshire's 2005 annual report, I argued that active investment management by professionals – in aggregate – would over a period of years underperform the returns achieved by rank amateurs who simply sat still. I explained that the massive fees levied by a variety of "helpers" would leave their clients – *again in aggregate* – worse off than if the amateurs simply invested in an unmanaged low-cost index fund. (See pages 114 - 115 for a reprint of the argument as I originally stated it in the 2005 report.)

Subsequently, I publicly offered to wager $500,000 that no investment pro could select a set of at least five hedge funds – wildly-popular and high-fee investing vehicles – that would over an extended period match the performance of an unmanaged S&P-500 index fund charging only token fees. I suggested a ten-year bet and named a low-cost Vanguard S&P fund as my contender. I then sat back and waited expectantly for a parade of fund managers – who could include their own fund as one of the five – to come forth and defend their occupation. After all, these managers urged *others* to bet billions on their abilities. Why should they fear putting a little of their own money on the line?

What followed was the sound of silence. Though there are thousands of professional investment managers who have amassed staggering fortunes by touting their stock-selecting prowess, only one man – Ted Seides – stepped up to my challenge. Ted was a co-manager of Protégé Partners, an asset manager that had raised money from limited partners to form a fund-of-funds – in other words, a fund that invests in multiple hedge funds.

I hadn't known Ted before our wager, but I like him and admire his willingness to put his money where his mouth was. He has been both straight-forward with me and meticulous in supplying all the data that both he and I have needed to monitor the bet.

For Protégé Partners' side of our ten-year bet, Ted picked five funds-of-funds whose results were to be averaged and compared against my Vanguard S&P index fund. The five he selected had invested their money in more than 100 hedge funds, which meant that the overall performance of the funds-of-funds would not be distorted by the good or poor results of a single manager.

Each fund-of-funds, of course, operated with a layer of fees that sat above the fees charged by the hedge funds in which it had invested. In this doubling-up arrangement, the larger fees were levied by the underlying hedge funds; each of the fund-of-funds imposed an additional fee for its presumed skills in selecting hedge-fund managers.

Here are the results for the first nine years of the bet – figures leaving no doubt that Girls Inc. of Omaha, the charitable beneficiary I designated to get any bet winnings I earned, will be the organization eagerly opening the mail next January.

Year	Fund of Funds A	Fund of Funds B	Fund of Funds C	Fund of Funds D	Fund of Funds E	S&P Index Fund
2008	-16.5%	-22.3%	-21.3%	-29.3%	-30.1%	-37.0%
2009	11.3%	14.5%	21.4%	16.5%	16.8%	26.6%
2010	5.9%	6.8%	13.3%	4.9%	11.9%	15.1%
2011	-6.3%	-1.3%	5.9%	-6.3%	-2.8%	2.1%
2012	3.4%	9.6%	5.7%	6.2%	9.1%	16.0%
2013	10.5%	15.2%	8.8%	14.2%	14.4%	32.3%
2014	4.7%	4.0%	18.9%	0.7%	-2.1%	13.6%
2015	1.6%	2.5%	5.4%	1.4%	-5.0%	1.4%
2016	-2.9%	1.7%	-1.4%	2.5%	4.4%	11.9%
Gain to Date	8.7%	28.3%	62.8%	2.9%	7.5%	85.4%

Footnote: Under my agreement with Protégé Partners, the names of these funds-of-funds have never been publicly disclosed. I, however, see their annual audits.

The compounded annual increase to date for the index fund is 7.1%, which is a return that could easily prove typical for the stock market over time. That's an important fact: A particularly weak nine years for the market over the lifetime of this bet would have probably helped the relative performance of the hedge funds, because many hold large "short" positions. Conversely, nine years of exceptionally high returns from stocks would have provided a tailwind for index funds.

Instead we operated in what I would call a "neutral" environment. In it, the five funds-of-funds delivered, through 2016, an average of only 2.2%, compounded annually. That means $1 million invested in those funds would have gained $220,000. The index fund would meanwhile have gained $854,000.

Bear in mind that every one of the 100-plus managers of the underlying hedge funds had a huge financial incentive to do his or her best. Moreover, the five funds-of-funds managers that Ted selected were similarly incentivized to select the best hedge-fund managers possible because the five were entitled to performance fees based on the results of the underlying funds.

I'm certain that in almost all cases the managers at both levels were honest and intelligent people. But the results for their investors were dismal – *really* dismal. And, alas, the huge fixed fees charged by all of the funds and funds-of-funds involved – fees that were totally unwarranted by performance – were such that their managers were showered with compensation over the nine years that have passed. As Gordon Gekko might have put it: "Fees never sleep."

The underlying hedge-fund managers in our bet received payments from their limited partners that likely averaged a bit under the prevailing hedge-fund standard of "2 and 20," meaning a 2% annual fixed fee, payable even when losses are huge, and 20% of profits with no clawback (if good years were followed by bad ones). Under this lopsided arrangement, a hedge fund operator's ability to simply pile up assets under management has made many of these managers extraordinarily rich, even as their investments have performed poorly.

Still, we're not through with fees. Remember, there were the fund-of-funds managers to be fed as well. These managers received an additional fixed amount that was usually set at 1% of assets. Then, despite the terrible overall record of the five funds-of-funds, some experienced a few good years and collected "performance" fees. Consequently, I estimate that over the nine-year period roughly 60% – gulp! – of *all* gains achieved by the five funds-of-funds were diverted to the two levels of managers. That was their misbegotten reward for accomplishing something far short of what their many hundreds of limited partners could have effortlessly – and with virtually *no* cost – achieved on their own.

In my opinion, the disappointing results for hedge-fund investors that this bet exposed are almost certain to recur in the future. I laid out my reasons for that belief in a statement that was posted on the Long Bets website when the bet commenced (and that is still posted there). Here is what I asserted:

> Over a ten-year period commencing on January 1, 2008, and ending on December 31, 2017, the S&P 500 will outperform a portfolio of funds of hedge funds, when performance is measured on a basis net of fees, costs and expenses.
>
> A lot of very smart people set out to do better than average in securities markets. Call them active investors.
>
> Their opposites, passive investors, will by definition do about average. In aggregate their positions will more or less approximate those of an index fund. Therefore, the balance of the universe—the active investors—must do about average as well. However, these investors will incur far greater costs. So, on balance, their aggregate results after these costs will be worse than those of the passive investors.
>
> Costs skyrocket when large annual fees, large performance fees, and active trading costs are all added to the active investor's equation. Funds of hedge funds accentuate this cost problem because their fees are superimposed on the large fees charged by the hedge funds in which the funds of funds are invested.
>
> A number of smart people are involved in running hedge funds. But to a great extent their efforts are self-neutralizing, and their IQ will not overcome the costs they impose on investors. Investors, on average and over time, will do better with a low-cost index fund than with a group of funds of funds.

So that was my argument – and now let me put it into a simple equation. If Group A (active investors) and Group B (do-nothing investors) comprise the total investing universe, and B is destined to achieve average results before costs, so, too, must A. Whichever group has the lower costs will win. (The academic in me requires me to mention that there is a very minor point – not worth detailing – that *slightly* modifies this formulation.) And if Group A has exorbitant costs, its shortfall will be substantial.

There are, of course, some skilled individuals who are highly likely to out-perform the S&P over long stretches. In my lifetime, though, I've identified – *early on* – only ten or so professionals that I expected would accomplish this feat.

There are no doubt many hundreds of people – perhaps thousands – whom I have never met and whose abilities would equal those of the people I've identified. The job, after all, is not impossible. The problem simply is that the great majority of managers who attempt to over-perform will fail. The probability is also very high that the person soliciting your funds will not be the exception who does well. Bill Ruane – a truly wonderful human being and a man whom I identified 60 years ago as almost certain to deliver superior investment returns over the long haul – said it well: "In investment management, the progression is from the innovators to the imitators to the swarming incompetents."

Further complicating the search for the rare high-fee manager who is worth his or her pay is the fact that some investment professionals, just as some amateurs, will be lucky over short periods. If 1,000 managers make a market prediction at the beginning of a year, it's very likely that the calls of at least one will be correct for nine consecutive years. Of course, 1,000 monkeys would be just as likely to produce a seemingly all-wise prophet. But there *would* remain a difference: The lucky monkey would not find people standing in line to invest with him.

Finally, there are three connected realities that cause investing success to breed failure. First, a good record quickly attracts a torrent of money. Second, huge sums invariably act as an anchor on investment performance: What is easy with millions, struggles with billions (sob!). Third, most managers will nevertheless seek new money because of their *personal* equation – namely, the more funds they have under management, the more their fees.

These three points are hardly new ground for me: In January 1966, when I was managing $44 *million*, I wrote my limited partners: "I feel substantially greater size is more likely to harm future results than to help them. This might not be true for my own personal results, but it is likely to be true for your results. Therefore, . . . I intend to admit no additional partners to BPL. I have notified Susie that if we have any more children, it is up to her to find some other partnership for them."

The bottom line: When trillions of dollars are managed by Wall Streeters charging high fees, it will usually be the managers who reap outsized profits, not the clients. Both large and small investors should stick with low-cost index funds.

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If a statue is ever erected to honor the person who has done the most for American investors, the hands-down choice should be Jack Bogle. For decades, Jack has urged investors to invest in ultra-low-cost index funds. In his crusade, he amassed only a tiny percentage of the wealth that has typically flowed to managers who have promised their investors large rewards while delivering them nothing – or, as in our bet, *less* than nothing – of added value.

In his early years, Jack was frequently mocked by the investment-management industry. Today, however, he has the satisfaction of knowing that he helped millions of investors realize far better returns on their savings than they otherwise would have earned. He is a hero to them and to me.

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Over the years, I've often been asked for investment advice, and in the process of answering I've learned a good deal about human behavior. My regular recommendation has been a low-cost S&P 500 index fund. To their credit, my friends who possess only modest means have usually followed my suggestion.