



WON'T GET FOOLED AGAIN

THREE WAYS YOU CAN GO BROKE; BOGGLEHEADS;
AND – BERKSHIRE HATHAWAY: GETTING IN TUNE

2024 LETTER TO CLIENTS

February 21, 2025

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WON'T GET FOOLED AGAIN

We'll be buying on Wall Street with blood rushing past our feet
And the bubbles that they worship will be blown
The Fed who spurred it on sit in judgment of all wrong
They decide and inflation sings the song

I'll tip my hat to the new constitution take a bow for the new revolution
Smile and grin at the change all around pick up a 10-K and play
Just like yesterday then I'll get on my knees and pray
They don't get fooled again

A change it had to come we knew it all along
We were liberated from the gold that's all
The hype looks just the same and history ain't blamed
'Cause the bubbles, they are blown in the last war

I raise my hat to the new constitution take a bow for the new revolution
Smile and grin at the change all around pick up my a 10-K and play
Just like yesterday then I'll get on my knees and pray
They don't get fooled again, no, no, they don't get fooled again

I'll move myself and my money aside
If we happen to be left half alive
Get all my companies and smile at the sky
Though I know that the footnotes never lie
Do ya?

No bleeding on Wall Street looks any different to me
And the suckers are effaced, by the bye
The fleecing on the left is now gifting on the right
And the bubbles have all grown larger overnight

I'll tip my hat to the new constitution take a bow for the new revolution
Smile and grin at the greed all around pick up a 10-K and play
Just like yesterday then I'll get on my knees and pray
They don't get fooled again don't wanna get fooled again, no, no

Meet the new boss
Same as the old boss

INTRODUCTION – KINDNESS AND TRUST

A community lost Charlie Munger in November 2023. Warren Buffett lost not only his business partner but his best friend of six decades. I don't think anybody in Omaha or watching at home knew what to expect that morning of the first Saturday in May last year when Warren assumed his usual place at the dais, his familiar, inseparable companion no longer seated at his left shoulder, munching peanut brittle and sipping Diet Cokes.



The day wound up being extraordinary. Greg Abel and Ajit Jain, Berkshire Vice Chairmen with Charlie, nicely fielded questions in Charlie's absence. Warren, then at 93, was as sharp and witty as ever. Always self-deprecating, he was candid, and he taught. It was also inescapably obvious to those in attendance that he grieved. Perhaps it required the ceremony of the Berkshire Hathaway annual meeting for the emotion of missing Charlie to finally wash in. We grieved with him. It was a fitting tribute, and for the first of my meetings in attendance since 2000, it was memorably emotional.

Upon fielding and answering an early question, Warren reflexively turned to his left and called for additional input, "Charlie...?" Instead, he found Greg. What a moment. Warren's comments throughout the day were poignant, especially his answers to a series of questions as the closing afternoon session wound down.

The first asked Warren to address his estate plan directing most of his wife's inheritance be invested in a market-capitalization-weighted S&P 500 index fund rather than an equal-weighted fund, given that the "Magnificent Seven" tech stocks comprised more than one-quarter (now closer to 35%) of the cap-weighted index. Two components of Warren's answer were noteworthy. He explained, "I wanted to leave plenty of money to take care of my wife beyond anything she'll ever spend (Astrid apparently doesn't know *my* wife)," and "it wouldn't make any difference to her in life whether she beats the S&P or anything else." The second part of the answer confirmed a point I've made for years, "And the trustee doesn't have to worry about getting sued or anything else." The message here is an irrevocable trust will be established upon Warren's passing for Astrid's benefit as beneficiary. The trust's investment assets, much like a foundation account, will legally require diversification. In other words, regardless how diversified Berkshire itself is, the trustee would be *required* to not own Berkshire either entirely or in a too-large proportion.

Warren's answer then morphed into a discussion having nothing to do with the investment merit of not owning the capitalization-weighted index. Instead, Warren explained that he revised his will every three years or so, getting "little thoughts from time to time." In doing so, he cautioned against the use of codicils to a will. His comments are better in the original and not summarized:

People do interesting things. I've been around probably as many rich people as almost anybody, and for a fair number I know what they're doing or have done with their funds. And the idea that you can have a huge amount of money and leave everybody very rich and have people liking each other less when it all happens... Humans are really... they are interesting to watch. Some of them handle it beautifully, and others do terribly. The one thing lawyers will always tell you is don't use codicils. In other words, when you change your mind on a will, just write a new one, but tear up the old one. Don't do it by just adding codicils.

But I believe I'm correct...I've certainly read it...that Paul Getty, who was the richest man in the world, presumably at one point in the 1950s or 1960s, and was a very interesting guy to

read about, and he had five wives, and he's the one whose grandson was kidnapped, and they sent Paul Getty an ear of the child and everything. I mean, it's not a happy life when you get through it. But the one thing he did that was kind of interesting, he actually liked to use codicils because I think he had like 25 of them. And it was kind of his way of writing, "Well, I'm taking you out of the will because..." And so he sort of delighted in explaining through his will how he felt about all these people.

You really get some strange things revealed in a will. I just read about a will of a fellow that made a whole lot of money and was leaving it to his, I don't know whether it was children, grandchildren, whatever it may have been, but in any event, his opening line in his will is, and this was done some years ago, but I know something about the family. His opening line, in effect, said, "I'm writing this will while I am flying in the economy section of Eastern Airlines, number such and such." I mean, he believed in getting right to the point about what the people who were recipients, how they should live, and he was going to be judging them. It's just so darned interesting to watch people's wills. But one guy left a lot of money to his wife on the condition that she remarry, so that at least one man would mourn his passing.

The next especially meaningful comments were in response to a question regarding the opportunity cost of working long hours at the sacrifice of family and whether, if given a new start, would Warren set his priorities any differently. The question lacked discretion and taste, but Warren handled it beautifully, noting he's not perfect, but also:

I don't believe in a lot of self-criticism or being unrealistic about either what you are, or what you've accomplished, or what you'd like to do. You do a lot of things, and who knows with somewhat different tradeoffs, you don't know where the paths would have led. I don't think there's any room in beating up on yourself over what's happened in the past. It's happened, and you get to live the rest of your life, and you don't know how long it's going to be. And you keep trying to do the things that are important to you.

Warren proceeded with wise words for all of us to aspire to:

If I was a doctor, or if I was in all kinds of different professions, I might do different things, but I really enjoy managing money for people who trust me. I don't have any reason to do it for financial reasons. I'm not running a hedge fund or getting an override or anything, but I just like the feeling of being trusted. Charlie felt the same way. You know, that's a good way to feel in life, and it continues to be a good feeling.

So, I'm not really looking to change much. And, you know, if I'm very lucky, I get to play it off for six or seven years, and it could end tomorrow. But that's true of everybody. Although the equation isn't exactly the same. But I don't believe in beating yourself up over anything you've done in the past. And I don't believe in, well, I believe in trying to find what you're good at, what you enjoy. And then I think the one thing that you can aspire to be, because this can be done by anybody, and it's amazing, it doesn't have anything to do with money, but you can be kind. You can be kind, and then the world is better off. I'm not sure that the world will be better off if I'm richer, but there's no question that...I mean, you know, kind people...and in the end, aspire to be more kind. I'm sure many of you are kind yourself, but just aspire to be more so.

The meeting ended from there with one final question via moderator Becky Quick, asked of a close friend of both Warren and Charlie, Devon Spurgeon. Warren caught his breath at the mention of her name, knowing what was coming next was likely going to be emotional. Who knew it would tie together Warren's earlier tangential comments, warning against the use of codicils to wills:

Becky: This question comes from Devon Spurgeon. “On March 4th, Charlie’s will was filed with the County of Los Angeles. The first codicil contained an unusual provision. It reads, “Averaged out, my long life has been a favored one, made better by duty, imposed by family tradition, requiring righteousness and service. Therefore, I follow an old practice that I wish was more common. Now, inserting an ethical bequest that gives priority not to property, but to transmission of duty.” If you were to make an ethical bequest to Berkshire shareholders, what duties would you impose, and why?

Warren: I’d probably say, “Read Charlie. I mean, he’s expressed it well, and I would say that if they’re not financially well-off, if you’re being kind, you’re doing something that most of the rich people don’t do, even when they give away money. But that’s on the question of whether you’re rich or poor. And I would say, if you’re lucky in life, make sure a bunch of other people are lucky, too.

On that thought, Warren then closed the extraordinary day with the following, holding up a sign for the audience to see, the quote in brackets:

Okay. Just in case...so you know what my advice to myself would be and has been during this period. [Holds up and reveals self-facing placard: “SHUT UP”]. So, we only got 33 questions, or whatever it is. But thank you very, very much for coming, and I not only hope that you come next year, but I hope I come next year.

What a day. What wisdom. What a life. What a friendship. We will never again experience an ovation like that. I look forward to seeing everyone in Omaha on the first Saturday this May.

In the Letter

Won’t get fooled again. It would be a stretch to believe Roger, Pete, John and Keith warned against the perils of speculating or investing at a secular peak. Who? The lads rather sang of governments lying to the people and abusing freedom. But this is an investment letter, and we’ve had scams and bubbles aplenty to occupy our time in sidestepping, so let’s not touch the third rail of politics. With every bubble there is a changing of the guard, after all.

Intrinsic Value Update – And History Ain’t Changed contrasts an undervalued, actively-managed Semper portfolio with the capitalization-weighted S&P 500, concentrated in a shrinking number of highly-priced shares like never before. Into our second quarter century, we find ourselves likely at a secular peak rivaling the one so dangerous when we launched the firm at the height of the tech bubble in the late 1990s.

Three Ways You Can Go Broke compares today’s stock market with secular peaks throughout the last century. The hazards of holding too much cash, certainly for too long, is illustrated with some eye-opening simple math. Leverage kills, as the section title suggests, and we analyze debt across time and moral hazard encouraged by Federal Reserve policy. Excessive leverage is the single largest threat facing the economy and capital markets.

Two sections, *Bogleheads* and *When Seven is Greater than Four Ninety-Three*, combine our five-factor investment return attribution work in evaluating past and unfortunately grim expectations for much of the stock market, breaking the S&P 500 down by 7 presently magnificent constituents and 493 others, themselves far from magnificent, but not unlike the 7, far from cheap. But don’t take our word for it alone. The strategy folks at Vanguard are out with their own work suggesting that not only is past

performance not indicative of future results, but prospective returns are likely to fall far below both recent and the long-term experience. You won't find the grim strategy conclusions in advertisements.

The letter's traditional book and music recommendations make a return in *Books and Tunes for Walking*.

Our ongoing analysis of Berkshire Hathaway can be found in the letter's customary final section, *Berkshire Hathaway: Getting in Tune*. It's meaningful that so many of our clients and countless Berkshire watchers find our work on the company useful. We are grateful to so many of you who express your appreciation for our sharing the work each year. Through it all, having analyzed the company since 1996, and owned it since 2000, instead of the hours spent on analysis and digging into the nuances of the operation, we could have just as easily relied on Warren's message to the uninitiated or financially unsophisticated shareholder. It's important to be trusted. I like to be trusted. Chad likes to be trusted. We have an extraordinary team at Semper who feel the same way. Like Berkshire, we'd never run the company or our clients' investment capital in a way that permanent harm could come to it.

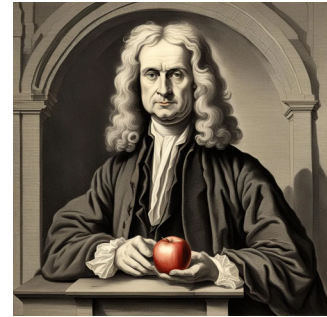
Last year's introduction to the letter reflected upon the loss of four individuals who meant so much to me, my mom, Charlie, Jimmy Buffett, and Brian McGregor, my high school football coach. Coach Mac was way more than just that. Lifelong friend, mentor, and mostly father figure. Delivering his eulogy meant the world to me. But spending time this year with some of his grandchildren was like having him with me.

2024 brought the passing of my other Coach Mac, Bill McCartney. I didn't have the same lifelong relationship with Coach Mac after playing for him in college, but his impact on who I am and on so many others was extraordinary. Coach Mac stumbled in life before taking the Colorado job in 1982. He turned to a deeper faith, and for it, became an example and role model on how to live for everyone in his world. Coach Mac *was* the golden rule. In a football sense he was an extraordinary leader. He instilled confidence, discipline and toughness in his players. In life, he instilled compassion, morality and respect for others, including for oneself. Coach Mac would have agreed with Warren's sentiments on trust and kindness. RIP, Coach.

I don't think my description of Mr. Buffett's comments at the outset of this introduction does justice to the message or the emotion of the day. Anyone interested is encouraged to watch the afternoon session of Berkshire's 2024 annual shareholders' meeting found at the Warren Buffett archive section of CNBC's website. Berkshire donated video recordings of the entirety of every meeting from 1994 to the present. Audio recordings of the meetings can also be found as a stand-alone show on all of the major podcast apps.

INTRINSIC VALUE UPDATE – AND HISTORY AIN'T CHANGED

*“And back in the spring of 1720, Sir Isaac Newton owned shares in the South Sea Company, the hottest stock in England. Sensing that the market was getting out of hand, the great physicist muttered that he “could calculate the motions of the heavenly bodies, but not the madness of the people.” Newton dumped his South Sea shares, pocketing a 100% profit totaling £7,000. But just months later, swept up in the wild enthusiasm of the market, Newton jumped back in at a much higher price—and lost £20,000 (or more than \$3 million in today’s money). For the rest of his life, he forbade anyone to speak the words “South Sea” in his presence.” – Benjamin Graham, *The Intelligent Investor**



Tulips. Mississippi. South Sea. Canals. Rails. Arks. Roaring Twenties. Tronics. Conglomerates. Japan. Dotcoms. Subprime. SPACs. Ponzi. Madoff. Holmes. SBF. Beanie Babies. Bitcoin. AI. This time is different. I won’t get fooled again. And the hype looks just the same. And history ain’t changed.

Remember Jeeves, the affable fellow certain to replace Yahoo! Search as the internet’s default search engine? Jeeves didn’t, of course. I frankly don’t recall the evolution of my use of search engines but know that sometime after Google’s iteration launched in September 1998 and became the search engine for Yahoo in 2000 that access to data increased exponentially. Before long Google was the standard in search, butlers and Bing be damned.



The era of technological change in the late 1990s through early 2000 ushered in by the internet was celebrated in earnest by investors. Tech stocks commanded a staggering 34% of the S&P 500 in February 2000 while tech’s share of profits was only 15%. By early March 2000, the Nasdaq, then hosting the lion’s share of tech company equities, was set to see its market capitalization surpass that of the New York Stock Exchange, largely devoid of technology companies (excepting the one-off IBM dinosaurs). The problem was the Nasdaq constituents earned only about 20% as much as the Big Board’s member companies.

It turns out March 2000 was the greatest secular peak in U.S. stock market history, surpassing 1929 by numerous measures. By year-end 2002, the S&P 500 shed 49% of its value while the tech-heavy Nasdaq tanked nearly 80%. Technology’s share of the now halved S&P dropped from 34% to 14% while tech’s cousin, telecommunications, fell from 8% to 4%, and go on to gradually shrink from there.

Fast forward from 2000’s dot-com bubble. Concentration in tech is back in a big way. Where the entire tech sector, dozens of companies, comprised 34% of the S&P 500 in 2000, *a mere seven stocks do the same today*. When the Nasdaq Composite peaked a quarter century ago (we’ll have the 25th anniversary of the top on March 10), only four of today’s seven goliaths were even public companies. Nvidia, today’s number one by market capitalization at today’s writing, was only public for just over a year. By 2012 all seven were finally publicly traded but as a group commanded 8.6% of S&P combined market capitalization, a bit smaller than their 34% at year-end 2024.

Yesterday’s dot-com bubble just might be today’s artificial intelligence variety, AI to everyone in the know. Think search engines on steroids. Just as the internet, and canals, and railroads, and automobiles, were revolutionary, so too is AI. Companies eager to win in AI are shoveling capital expenditure dollars as quickly as possible at the prospects of productivity for all. And profits for them. The sums are vast.

In the simpleton world of drafting a yearly investment letter, a Google search for “Mag 7 IPO dates” immediately yields a nicely formatted table with five supporting links. Beyond help with organizing prose (or plagiarism), think more broadly. Society will surely see genuine leaps in pharmaceutical drug research, medical diagnosis, language translation, forecasting, vehicle and ship navigation, complex optimization problems and countless untold efficiencies.

I took a brief stab at describing a stock market bubble as, “A stock market bubble is a period when stock prices of publicly-traded companies increase rapidly and are not justified by the underlying fundamentals of the companies themselves. The bubble is driven by speculation and investor optimism, rather than the intrinsic value of the stocks.”

By contrast, how’s this for simple AI talent: Input, “Define stock market bubble.” Output:

A stock market bubble is a period when stock prices are much higher than their actual value. This happens when investors are overly optimistic and speculate, driving prices to unsustainable levels.

Causes

- *Investor psychology: Investors may be influenced by cognitive biases that lead to groupthink and herd behavior.*
- *Expectations: Investors may have unrealistic expectations about the growth potential of a company or industry.*
- *Excess liquidity: There may be too much money in the market, which can lead to speculation.*

Examples

- *Dot-com bubble*
In the late 1990s, tech stocks increased in value as investors were optimistic about the new internet economy.
- *2000s US housing bubble*
The federal funds rate decreased, which led to historically low interest rates on mortgages.
- *2021–2022 tech stock decline*
High-growth tech stocks decreased in value after investors realized their expectations were not met.

Effects

- *When a bubble bursts, there is a sharp market correction.*
- *The companies that gained value during the bubble may go out of business.*

I could have been a middle-school academic star with this kind of help. What we can conclude from my succinct bubble definition to AI’s wordier outline version is the Semper letter is not ready for AI, the mission here brevity, always brevity.

The question as to whether the stock market is in a bubble is unclear. 2000 was a bubble, but it was constrained to a group of extremely overvalued companies largely operating in hot sectors. Large-cap blue chip stocks were in their own bubble two years prior, when companies like Coca-Cola, Walmart and General Electric traded for sky-high valuations. That bubble in high-quality large caps burst and in its wake the dot-com bubble developed. The two sequential iterations of bubble arguably were one and the same.

We find similar aspects to the 1998 to 2000 period in today’s market. Beyond the Magnificent Seven, and other tech and now AI beneficiaries, a few dozen of non-tech large company shares are likewise extremely expensive. Costco, Lilly and Walmart (again) are three at top of mind. Just as in the late 1990s, a bifurcation evolved where extremes of valuation exist. Atop the market are several very expensive

companies, mostly large U.S.-based; and much of everything else, from mid- and small-capitalization shares to international and emerging markets are at much more reasonable levels. We don't like characterizing markets with broad-brush generalizations as Mr. Market may be manic in some sectors or geographies but perfectly rational in others. Said differently, mediocre or poor companies deserve low prices while terrific companies are correctly rewarded with premium valuations. Identifying extremes in price relative to value is the opportunity set sought by the fundamental value investor. We have extremes in spades today and believe there are excellent places to deploy capital and also those to avoid. Ben Graham said it best in *The Intelligent Investor*:

The most realistic distinction between the investor and the speculator is found in their attitude toward stock-market movements. The speculator's primary interest lies in anticipating and profiting from market fluctuations. The investor's primary interest lies in acquiring and holding suitable securities at suitable prices. Market movements are important to him in a practical sense, because they alternately create low price levels at which he would be wise to buy and high price levels at which he certainly should refrain from buying and probably would be wise to sell. It is far from certain that the typical investor should regularly hold off buying until low market levels appear, because this may involve a long wait, very likely the loss of income, and the possible missing of investment opportunities. On the whole it may be better for the investor to do his stock buying whenever he has money to put in stocks, except when the general market level is much higher than can be justified by well-established standards of value. If he wants to be shrewd he can look for the ever-present bargain opportunities in individual securities. Aside from forecasting the movements of the general market, much effort and ability are directed on Wall Street toward selecting stocks or industrial groups that in matter of price will "do better" than the rest over a fairly short period in the future. Logical as this endeavor may seem, we do not believe it is suited to the needs or temperament of the true investor—particularly since he would be competing with a large number of stock-market traders and first-class financial analysts who are trying to do the same thing. As in all other activities that emphasize price movements first and underlying values second, the work of many intelligent minds constantly engaged in this field tends to be self-neutralizing and self-defeating over the years. The investor with a portfolio of sound stocks should expect their prices to fluctuate and should neither be concerned by sizable declines nor become excited by sizable advances. He should always remember that market quotations are there for his convenience, either to be taken advantage of or to be ignored. He should never buy a stock because it has gone up or sell one because it has gone down. He would not be far wrong if this motto read more simply: "Never buy a stock immediately after a substantial rise or sell one immediately after a substantial drop."

The last two years remind us considerably of the period leading up to the March 2000 bursting of the stock market and tech bubble. Passive investment flows to index funds and ETFs, coupled with investors chasing momentum, created a wide disparity among a small number of very large companies' shares, particularly in technology. The correlation between our stocks and the S&P 500 and more so the Nasdaq was often negative day to day. When the market would rise our stocks would decline and vice versa. Parallels over the last three or so years are uncanny.

Three Years Beyond a Secular Peak?

Semper earned a modest 7.0% net return in 2024, having earned 10.8% the prior year and 1.0% in 2022 (a year that saw stock markets and numerous other assets in decline). Cumulatively for three years our composite of client portfolios with any cash and net of fees earned 19.8%, a 6.2% annual average. Much of the three years seemed as though the overall portfolio drifted sideways despite large volatility in the markets (and among many portfolio holdings). The S&P 500 recovered from an 18.1% decline in 2022

with a 26.3% showing in 2023, and with last year's 25.0% return is now up 29.3% for the three years, or 8.9% annualized. The index now trades for more than 25x current earnings.

2022, 2023, 2024 and Three-Year SAI, Index and Magnificent Seven Returns

	2022 Total Return	2023 Total Return	2024 Total Return	Cumulative 2-Year 2022-2023	Cumulative 3-Year 2022-2024	Annualized 3-Year 2022-2024
Semper Augustus Net	1.0%	10.8%	7.0%	11.9%	19.8%	6.2%
Mag 7 Dominated Indices						
S&P 500	(18.1%)	26.3%	25.0%	3.4%	29.3%	8.9%
<i>S&P 500 Equal Weighted*</i>	(11.5%)	13.9%	13.0%	0.8%	14.0%	4.5%
S&P 100	(20.9%)	32.9%	31.0%	5.1%	37.7%	11.3%
Nasdaq Composite	(32.5%)	44.6%	29.6%	(2.4%)	26.4%	8.1%
Nasdaq 100	(32.4%)	55.1%	25.9%	4.9%	32.0%	9.7%
Russell 3000 Growth	(29.0%)	41.2%	32.5%	0.3%	32.9%	9.9%
No Mag 7 Indices						
Russell 3000 Value	(8.0%)	11.7%	14.0%	2.7%	17.1%	5.4%
Russell 2000	(20.4%)	16.9%	11.5%	(7.0%)	3.8%	1.2%
S&P 600 Small Cap	(16.1%)	16.1%	8.7%	(2.6%)	5.8%	1.9%
MSCI ACWI Ex-US	(15.6%)	16.2%	6.1%	(1.9%)	4.1%	1.4%
Magnificent 7						
Apple	(26.4%)	49.0%	30.7%	9.7%	43.3%	12.7%
Microsoft	(28.0%)	58.2%	12.9%	13.9%	28.6%	8.7%
Alphabet/Google	(39.1%)	58.3%	36.0%	(3.6%)	31.1%	9.5%
Amazon	(49.6%)	80.9%	44.4%	(8.9%)	31.6%	9.6%
NVIDIA	(50.3%)	239.0%	171.2%	68.6%	357.3%	65.9%
Meta Platforms/Facebook	(64.2%)	194.1%	66.0%	5.2%	74.7%	20.4%
Tesla	(65.0%)	101.7%	62.5%	(29.5%)	14.6%	4.7%

Total return calculates dividends reinvested in security or index.

*Equal-weighted positions are 0.2% so a 1.4% weight for the Mag 7.

Source: Bloomberg, Y Charts; Semper Augustus

Much of the global stock market reflects underlying pressure on profits and a compression in valuation, making numerous markets and individual stocks fundamentally cheap, both absolutely and certainly relative to the S&P 500 and its handful of larger components.

Spend some time with the stock indices in the table above. The four indices arranged under the header “No Mag 7 Indices” are the Russell 3000 Value, Russell 2000 (the 2000 smaller U.S. stocks after the 1000 largest), S&P 600 Small Cap and MSCI ACWI Ex-U.S. These indices contain *none* of the Mag 7 stocks, which we find very expensive as a group and now comprise an enormous proportion of the stock market. These indices without the Mag 7 earned low-single-digit annualized returns over the last three years and only recently recovered 2022’s declines. These four are reflective of much of the stock market outside of the biggest U.S. stocks.

All but one of the indices including the Mag 7 are capitalization weighted, which exaggerates the dominant impact of the Mag 7 stocks themselves. The result is the capitalization-weighted S&P 500 doubled the return of the equal-weighted index of the same 500 stocks over the last three years. As an example, the equal-weighted S&P 500 index has a 0.2% weighting in Apple while the capitalization-weighted S&P 500 index had a 7.6% weighting on December 31, 2024. The Mag 7 in an equal-weighted

index of 500 companies will comprise 1.4% of the index, where they are roughly 34% of the cap-weighted S&P 500. The S&P 100 consists of the largest 100 components, which naturally includes the Magnificent 7 of the 500 in an even greater concentration and has just crushed everything else. The valuation of the largest 100 stocks in the U.S. market is arguably at the highest level in the entire history of the U.S. market. Perhaps only the peak in 2000 was fundamentally more expensive.

The MSCI ACWI Ex-US is a worldwide capitalization-weighted index, which in this case excludes U.S. companies, so is just the foreign components from the broader ACWI. Recently, the weighting of the ACWI's U.S. members grew to two-thirds of the index, up from half just over the past few years. As a reference, U.S. GDP is roughly 25% of global GDP. The ACWI inclusive of its U.S. components is dominated by the S&P 500, which itself is dominated by the Magnificent 7 and a handful of other large caps. MSCI also publishes an emerging markets index which is not included in the table. Its returns have been miserable for years.

Mag 7 Extraordinary Stats

We will spend time with the Magnificent 7 using our five-factor return attribution analysis later in the letter. However, a few remarkable notes are worthy of mentioning here. The seven stocks comprising the “Magnificent 7” contributed roughly 61% of the S&P 500’s gain in market value over the past three years, despite being crushed in 2022. The seven contributed 16.0% of sales growth and an INCREDIBLE 88% of profits to the S&P 500 over three years. Read that sentence again. Nearly all of earnings growth came from seven companies. Beyond the Mag 7, the rest of the stock market, here and abroad, is in an earnings recession.

Nvidia alone contributed more than a quarter of the S&P’s return over the last three years, which is just staggering. The Mag 7 now makes up nearly 35% of the S&P 500’s entire capitalization and trades as a group for 35.7x earnings. The remaining 493 trade collectively for 21.7x, no bargain either. The market rightly rewarded those seven stocks (and several other very large-cap stocks) for the growth they experienced. As is often the case, stocks can get ahead of fundamentals and vice versa.

Mr. Market and the Semper Portfolio

The bursting of the late 1990s dot-com bubble may provide a roadmap. From the secular peak at year-end 1999 (Mid-March 2000 was the very peak), the S&P returned 7.7% annually over the last quarter century. Semper emerged at the end of 1998 and from our outset our stocks returned 1,507% cumulatively, or 11.4% per year on average over the last nearly 26 years (portfolio inception February 28, 1999). The S&P earned 8.2% per year over the same period while the MSCI ACWI only gained 6.9% annually. A disparity of just a few percentage points of return over many years becomes a huge gap.

The latter months in 2024 saw many of our stocks decline from higher levels. Our stocks ended the year overall about 6.3% off our August month-end high for the year when the portfolio had a 14.5% total year-to-date total return. December alone saw Semper’s portfolio stocks decline 4.3% as value-oriented positions broadly declined across markets as big tech and momentum-driven stocks continued their march higher.

Our portfolio has moved higher so far in 2025, closing more than all of December’s decline. In all short-term cases, however, Mr. Market and the voting machine is in charge. Measured by business value and earning power, our businesses and estimates of value grew more than their underlying stock prices over the last one and three years. In the long-run Mr. Market tends to get it right.

Numerous industrial sectors globally are very weak. We have a handful of portfolio companies with lower profits over the last year or two, some cyclical in nature like our energy and chemical companies, and some like our dollar-store retailers who will see a lower margin structure likely indefinitely than existed prior to the pandemic. We incorporate this into our valuation and find the stocks materially undervalued. Wall Street hates earnings “misses,” even when expectations are irrationally too high. Prices can overshoot both on the high and low sides relative to durable earnings power. Mr. Market at work. In some cases, stock prices simply fall for lack of institutional support or passive investment flows. Prices tend not to stay irrationally high or low relative to fundamentals indefinitely.

We have little worry about stock price performance over short and intermediate intervals. Over the long haul our investment results have and should mimic our businesses’ underlying business results, and if we bought our stocks at a discount to intrinsic value, we’ll see the discount close upward. Everything trailed the investment returns of the Nasdaq in the late 1990s. When the dot-com bubble burst, we earned roughly 25% from 2000 through 2002 when the S&P was halved and the Nasdaq plunged close to 80%. We also had four years ended 2015 where our returns lagged the “market” dramatically, capped by a 10.3% decline in 2015 when the S&P advanced slightly. Our valuation advantage was wide at the close of 1999 and similarly wide in 2015. We find the portfolio similarly relatively valued today – meaning cheap.

The Semper portfolio is valued at approximately 10.3x earnings, meaning a 9.7% earnings yield. The S&P closed 2024 at 25.2x, an earnings yield of just under 4%, and very close to a record high valuation, particularly at a time when margins are not depressed.

The disparity among stocks rising and declining in the portfolio and across the stock market during calendar year 2024 was as wide as we can recall since 1999. Businesses missing Wall Street earnings estimates see big percentage declines. We’ve taken advantage of declines with portfolio activity, trimming the most fully valued positions and adding to the most undervalued. The process served us well over the past quarter century and we expect it to do so over the coming quarter century. With the capitalization-weighted “market” at fundamental levels suggesting a secular peak, we are very comfortable with the positioning of the Semper portfolio.

It is only with sufficiently long holding periods that the underlying economics of a business will translate to investment return. This is Ben Graham’s weighing machine. But in short and intermediate terms, volatility in share prices in excess of underlying changes in business value affords tremendous opportunity to trim or sell the dear and purchase the cheap, whether a new position entirely or adding to the undervalued opportunistically.

A quarter century of yearly intervals is sufficiently statistically significant to allow a look under the hood at the repeatability of our investment process. In a typical year we’ll bring one to four new companies into the fold with no requirement to eliminate a like number. Our core holdings have consistently numbered 25 or so positions. Given initial position sizing, approximately a third of our annual activity is used in adding new or selling entire positions. Twice as much, or two-thirds of turnover on average, involves trading around our positions. We added one small new position to the portfolio in 2024, hoping to add to our holding at lower prices.

Generals In the Trenches

Portfolio activity was higher than our 15% historical turnover in 2024. Mercury General, a California-based property casualty insurer writing mostly private-passenger auto and secondly homeowners and commercial auto writes over 80% of its total premium volume in California (they underwrite in ten states outside their home state). Semper’s investment in Mercury was a 7.5% portfolio position at cost established largely in 2023. The stock nearly doubled in price and to roughly 12% of capital. We sold the

position mostly in the third quarter and deployed all the proceeds back into the portfolio's most undervalued positions. We had previously trimmed Mercury at full valuations in prior years before reestablishing the large position. Private passenger auto, commercial auto and homeowners' underwriting are cyclical. Trading the stock over the years has proven worthwhile. We were fortunate to be out of the stock heading into 2025 (other than a few small taxable account holdings waiting for long-term gain tax treatment and now gone entirely). Mercury is not a low-cost underwriter, but they are typically conservative, writing a smaller amount of premium volume than allowed by statute (meaning they carry surplus capital). Market share in auto has slowly declined over time. To offset the decline in policies in force, Mercury increased its proportion of homeowners' property underwriting. They have a specific concentration of homeowners' policies in Southern California. We monitor their underwriting and use of reinsurance closely. Decisions as to how much catastrophe risk to retain and how much reinsurance to purchase at renewals prove important when fires, for example, destroy a large portion of insured property on the books.

Regarding Mercury General and Dollar General portfolio activity, we wrote this in last year's 2023 letter,

...the year's turnover happened to be mathematically typical. Atypical is the fact that nearly all of our buying was dedicated to materially increasing the concentration of only two positions, which combined now account for nearly 20% of invested capital. Both positions had been trimmed significantly in prior years when their prices more fully reflected intrinsic value, or our appraisal of what we think the businesses are worth. Both declined more than 50% from prices at which we were selling shares and to levels where we think we were buying dollar bills for no more than fifty cents. If each position were to immediately trade up to our appraisals and holding the prices of all other portfolio positions constant, we'd see the two positions combined rise to perhaps 40% of invested capital. It doesn't work this way overnight, but in our general experience it's how the process works for us. Ben Graham's weighing machine horizon.

The Mercury investment worked out extremely well, so we awarded it an increase in rank from one-star to two-star general. George Joseph founded the firm in 1961 and remains its 103-year-old chairman. It will take every ounce of the veteran's leadership that he and his staff can muster in managing the coming months. To Mercury, the California fires are their version of Pearl Harbor.

In the meantime, our other portfolio general is under review for having a star removed from its rank. The company is grappling with headwinds, some of which are self-inflicted. Dollar General's shares declined to a very undervalued level. We'll walk through some of these issues briefly here. We've known that in an inflationary world the business' margins would be lower than before the pandemic and incorporated this in our ongoing analysis (of not only Dollar General and its industry competitors but across many industries). If we are wrong and margins normalize lower than expected upon working through operational issues, this general may lose a star but yours truly will be up for some KP duty.

Dollar General

Dollar General was taken private by KKR in 2007, making the company Dollar Private for a short tour of duty. The business was IPO'd less than two years later in 2009, looking markedly different (and definitely not leaner when measured by debt on the balance sheet).

Dollar General is the largest retailer in the U.S. by number of stores with 20,363 stores and 33 distribution centers at year-end 2024. Dollar Tree, another portfolio company, is the second largest with more than 16,000 stores split among Dollar Tree and Family Dollar stores. The latter was acquired in 2015 for \$8.5 billion with Dollar Tree outbidding Dollar General. By comparison, Walmart and Costco operate roughly 5,200 and 900 U.S. units respectively. Walmart has an additional 5,450 international stores. Costco's 900 include 300 operating abroad.

Dollar General has a long history as a successful discount retailer. Founded in 1939 as J.L. Turner and Son, Wholesale, the first Dollar General store opened in 1955 with the name changed to Dollar General in 1968 when the company went public. The company had 8,200 stores when KKR acquired it in 2007.

Prior to the KKR takeover, Dollar General operated with no term debt, using only operating leases for its real estate, typical of retailers, but making the company susceptible to acquisition by a private equity investor (it's hard to bring private equity's big leverage to an already highly-leveraged enterprise). Making DG even more attractive to KKR was the business figuratively hitting the wall in 2006 causing a share price decline. A number of operating missteps led to a material decline in profitability – gross margin dropped from 28.7% to 25.8%, SG&A expense rose from 22.2% of sales to 23.1%, and the net profit margin plunged from 4.1% to 1.5%. Earnings per share had grown from \$0.78 in 2002 to \$1.08 in 2005 but cratered to \$0.44 in 2006. The stock likewise hit the wall and tanked, making the otherwise terrific retailer an attractive target.

To its credit, KKR believed many of the operational issues were fixable. David Perdue, the CEO up to the takeover, had introduced several harmful initiatives in merchandising, supplier relations, distribution, store layout and employee compensation. Perdue had previously run Pillowtex, which went bankrupt shortly after his departure and subsequent helming of Dollar General. Sign, sign, everywhere a sign. KKR replaced Perdue by hiring Rick Dreiling from Duane Reade and Longs Drug previously.

Dreiling successfully undertook several initiatives and ran Dollar General as CEO and Chairman until retiring in 2015 (he was later recruited out of retirement in 2022 to the board and eventually CEO of struggling competitor Dollar Tree and Family Dollar). Dreiling is an outstanding manager and unfortunately recently needed to step away from his turnaround of Dollar Tree for personal health reasons which we understand are serious. Prayers to Rick and his family.

To their credit KKR and the new management team made significant improvements to Dollar General's operations during their short stint as owners. Mike Calbert led the KKR deal. Once public again and beyond a series of secondary offerings, Calbert remained on the board and became Chairman when Dreiling retired, replacing him with Todd Vasos who has proven to be an equally adept CEO. Vasos retired in early 2023 and abruptly returned later that year as Dollar General dealt with numerous challenges.

ON BEING PRIVATE EQUITY: KKR announced the purchase of Dollar General on March 12, 2007, for \$7.3 billion including a modest \$380 million in net debt. The purchase price was at a 31% premium to the prior closing price but *below its 2006 high*. The deal was financed with \$2.7 billion in equity and \$5.4 billion in high-yield junk debt (only \$4.7 billion of which was initially drawn), much of which was supplied by KKR at interest rates largely ranging from 10.625%, callable at 110.625% of par, to 11.875%, likewise callable at 111.875% of par by KKR. KKR was a part owner of credit facilities, the initial term notes created and a counterparty of swap arrangements. Management in place at the time of the acquisition earned \$86 million on option and RSU shares net of strike prices. Of the \$7.3 billion purchase price, goodwill amounted to \$4.4 billion and other intangibles an additional \$1.7 billion.

KKR sold Dollar General back to the public in November 2009 with Goldman, Citibank and KKR itself as book runners. On its watch several lesser-earning stores were closed and the net store count increased by 499 units to 8,828. No new distribution centers opened. Accounts payable rose by \$247 million. KKR paid itself a \$239 million special dividend five days prior to the IPO. The IPO totaled 39.2 million shares at \$21 per share, raising \$823 million. Dollar General sold 22.7 million of those shares, receiving \$446 million of the proceeds after paying all \$30 million of underwriting discounts and fees. KKR received the remaining \$347 million for its 16.5 million shares sold. Dollar General turned around and immediately spent all of their portion of IPO

proceeds redeeming a portion of the term debt owned by KKR. It paid \$229.6 million to redeem \$205.2 million senior subordinated notes at 111.875% of par and \$216.5 million to redeem \$195.7 million senior notes at 110.625% of par, earning KKR \$45.2 million in call premium in addition to the high-yield interest earned on the notes (the coupons matched the call premiums). KKR and Goldman also earned \$58.8 million as a termination fee and a \$4.8 million transfer fee.

KKR sold its remaining shares of Dollar General in December 2010 and April 2013. In all, the IPO and two secondaries alone raised \$14.3 billion at an estimated \$45 average price per share, netting an \$11.6 billion gain against KKR's \$2.7 billion equity cost. That's excluding the hard-earned fees, discounts, interest, call premiums, dividends and other transfers to KKR. Dollar General departed public life with 8,200 stores and \$69 million in net debt in 2007. It rejoined public life less than 18 months later with 500 more stores and \$3.3 billion of net debt. It's good to be private equity.

Fast forward to 2016. Dollar General store count expanded from 8,800 at the 2009 IPO to 13,000 and by then was growing at a rate of 1,000 new stores per year. New distribution centers were added at the rate of one per 1,000 new stores. The company had adopted ongoing productivity-enhancing initiatives:

- coolers were added at a growing rate to stores, driving increased traffic and basket size
- private label expanded to 25% of sales
- lease duration expanded from four or five years to fifteen-year build-to-suit with multiple renewals
- improved manager retention
- store layout and optimizing square footage selling space, including higher racking
- reduced stem miles (distance from distribution center to first delivery) and optimized loads in distribution
- added produce and other perishables to smaller stores where distribution allowed
- reduced shrink (retail industry code for theft, mostly)
- refunded high-cost debt and financed growth with cash flows
- repurchased a large quantity of shares outstanding

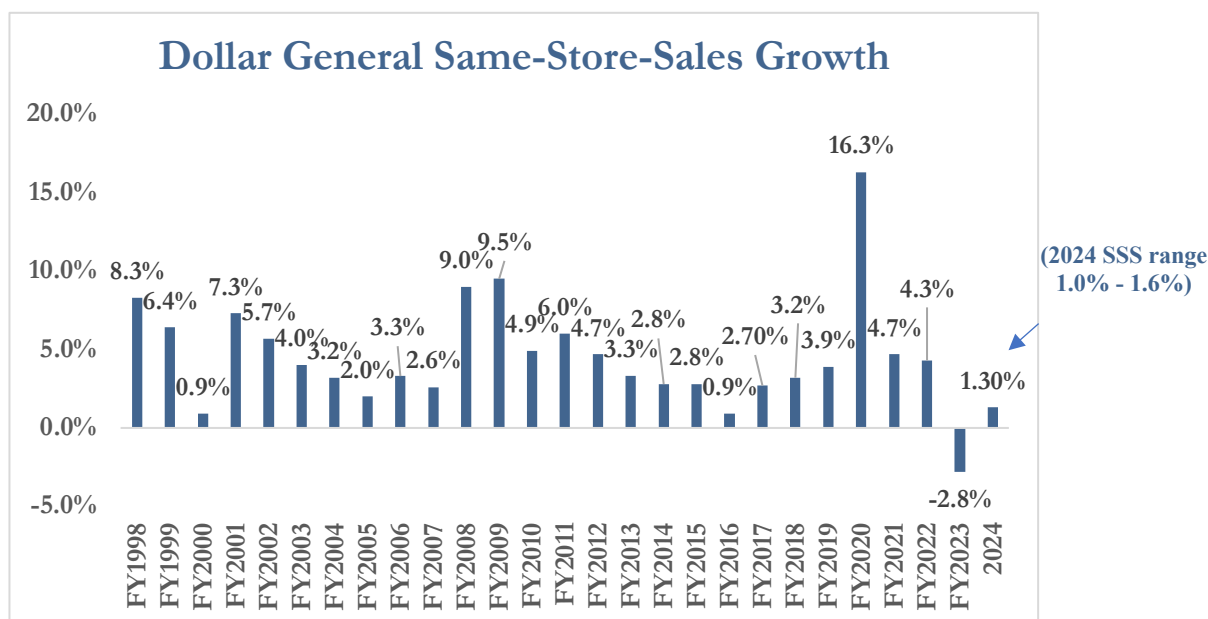
Even as management continually improved the operation, by 2016 the investment world became convinced Amazon and internet retail would crush all traditional retailers. 70% of Dollar General stores were then in rural towns of 20,000 or fewer. Today with 20,000 stores the rural mix is 80% and growth is coming in smaller and smaller towns. We believe much of Dollar General is somewhat immune to internet competition, certainly in many of the consumables sold during the week. The typical customer will shop at a Walmart or larger town supermarket on weekends. During the week Dollar General is often the only game in town, selling items at roughly a slight 1.5% premium to Walmart on a price per ounce or common-size equivalent basis. Where competition exists it's often a convenience store or drug store where prices to the customer are 20% to 40% higher.

The retail sector saw most stocks decline in price and we bought Dollar General as a 2% portfolio position in 2016 at about 15x multiple to earnings. We favored Dollar General as a superior business to the by then combined Dollar Tree and Family Dollar, which had likewise gotten seemingly cheap. Todd Vasos had replaced retired Rick Dreiling by the time we first invested in Dollar General and find him equally talented. The business expanded, adding 1,000 stores and also remodeling or rehabbing another 1,000 each year.

Heading into 2020 and the pandemic, the store count reached more than 16,000 while net profit margins averaged 5.5% to 6.0% per year. Locking down much of the global economy harmed most businesses and industries. Dollar General is among the most contra-economically sensitive businesses we've examined. The business is often the weakest as an economic expansion peaks but is at its best in recessions and

economic crises. The reason is counterintuitive as the customer base lives at half of median household incomes on average. Two things tend to happen when the economy weakens and unemployment rises. Middle income and higher income consumers tend to trade down to make incomes stretch. More importantly, less-well-off households and individuals are helped by rising social programs including the Supplemental Nutrition Assistance Program (SNAP), the modern equivalent of food stamps.

The chart below presents same store sales growth at Dollar General from fiscal years 1998 to 2024. The company saw growth in same store sales for 32 consecutive years before declining in 2023. Growth was weakest immediately before recessions in 1990, 2000, 2007 and 2020. Unit sales surged as the economy slowed, the deeper the downturn the better revenue growth. Same store sales comped at over 9% annually in the Global Financial Crisis years 2008-2009. The pandemic proved an extreme. Dollar General was deemed an essential business and operated throughout. In addition to an acceleration in SNAP benefits the government sent unprecedented support in the form of direct checks based on tax filings, and a temporary expansion of earned income tax credits and child tax credits. Household savings soared. Boat sales soared. Luxury goods sales soared. Liquor premiumization soared. Dollar General specifically saw an incredible 16.3% increase in same store sales with a tilt toward higher-margin discretionary items versus lower-margin consumables.



Source: DG 10-K filings; Semper Augustus

The surge in sales and volumes at Dollar General stores and the mix shift to higher-margin products ballooned cash flow from operations and profits, lifting the stock price higher and beyond our appraisal of the value of the company. Semper took advantage of the high stock price to materially trim down to 1% what had grown to be a 4% position. The proceeds financed the purchase of two oil refiners at an incredible less than 1.5x trailing five-year cash flows.

It was at this point that a number of challenging headwinds and operational miscues developed or were at least shortly exposed. Wall Street, doing what Wall Street does, put a ruler on 2020's growth and extrapolated high revenues, mix and margins into the future. Correspondingly, its overly-optimistic forecasts drove the stock to \$260 per share, then trading for 25x what was clearly an unsustainably high 8% net margin.

Inflation shortly emerged as the “free” money from Washington and the states was pulled back. Lower-income household savings vanished. The cost of living rose faster than wages. Many had predictably lived beyond their means or had pulled forward future consumption. Dollar General found itself with the wrong mix of discretionary merchandise and too much of it – so began a campaign of discounting, which has persisted longer than management expected.

Compounding the brutality of retailing to a stretched customer, management made a number of unforced errors. Until two years ago Bill Rhodes occupied a board seat. Many will recognize him as the long-time CEO at AutoZone. His coaching fingerprints are all over the post-IPO Dollar General playbook – operate high-return-on-capital retail units, retain enough earnings to open additional profitable units, distribute a nominal regular dividend with excess cash flow and importantly – when you know your stock is reasonably valued or undervalued – buy it back in spades. The record will show AutoZone’s share count reduced by 89% from 1998 to 2024. Most buybacks were at reasonable prices. Like AutoZone, Dollar General spent a sizable portion of operating cash flow repurchasing shares beginning three years after its 2009 re-IPO (it took time to repair the balance sheet). The share count declined 36% from 342 million in 2012 to 219 million at the end of fiscal year 2023. Prior to the pandemic-driven overselling and overearning, most share buybacks were largely made at opportunistically reasonable prices. Perhaps that’s because over the interval prior to 2020 the stock wasn’t overvalued. But then, management made a huge mistake when surplus profits rolled in and the stock surged. It forgot our mantra (assuming they knew it) that price matters. Cash flow from operations surged from \$2.2 billion in fiscal year ended January 31, 2020, to nearly \$3.9 billion over the next twelve months. The \$1.7 billion windfall was met with a doubling of share repurchases to \$2.5 billion. Over the next two years, which saw operating cash flows recede to \$2.9 billion and then \$2.0 billion, repurchases *increased* to \$2.55 billion and \$2.75 billion, *exceeding operating cash flow*. To finance what were, or at least turned out to be, repurchases of overvalued shares as well as capital expenditures for not only growing the store base but maintaining it, management added \$4.1 billion of term debt to the balance sheet. Term debt rose from \$2.9 billion right before the pandemic to \$7.0 billion in January 2023. Recall that term debt was virtually nonexistent prior to the KKR “deal.”

Thing two is the just mentioned required outlays for maintaining the store base. Management is slowly increasing the size of the typical store from 7,400 square feet to a range of 8,500 to 9,000 square feet. Coolers occupy floor space. If more selling space doesn’t come at the sacrifice of sales per square foot and inventory turnover, then bigger is better. Management thinks so. We have no reason to doubt this. However, I’d mentioned the company typically remodeled or relocated roughly 1,000 stores per year. It’s one thing to touch 1,000 units when your installed base is 10,000 or 13,000 units. It’s another thing altogether if the store base grows to 20,000 and you are behind on maintenance. They were and they are. Realizing this a year or more ago, Dollar General opened about 730 stores in 2024 and increased the number of remodels/relocations to 1,700. Faced with an inflationary problem confronting all capital-intensive businesses with maintenance requirements, the cost of building and fixing things rises. From an accounting perspective, depreciation expense is against historical cost. Not a problem in a world of low and declining inflation, the experience of the last four decades. In many cases depreciation expense matched maintenance capital expenditure requirements. No longer. Playing catch up, falling on their sword, call it what you will, but Dollar General announced in their last earnings call they will shrink new store openings to 575 and remodel or relocate a whopping 4,250 stores in fiscal 2025. Touching 4,250 stores is 21% of the installed store base. Two years ago, they were touching 5%. Remodeled stores tend to reemerge more appealing to customers and importantly more profitable. We applaud the decision to think long term and get on with it, and we think the outcome will benefit sales and margins. But damn.

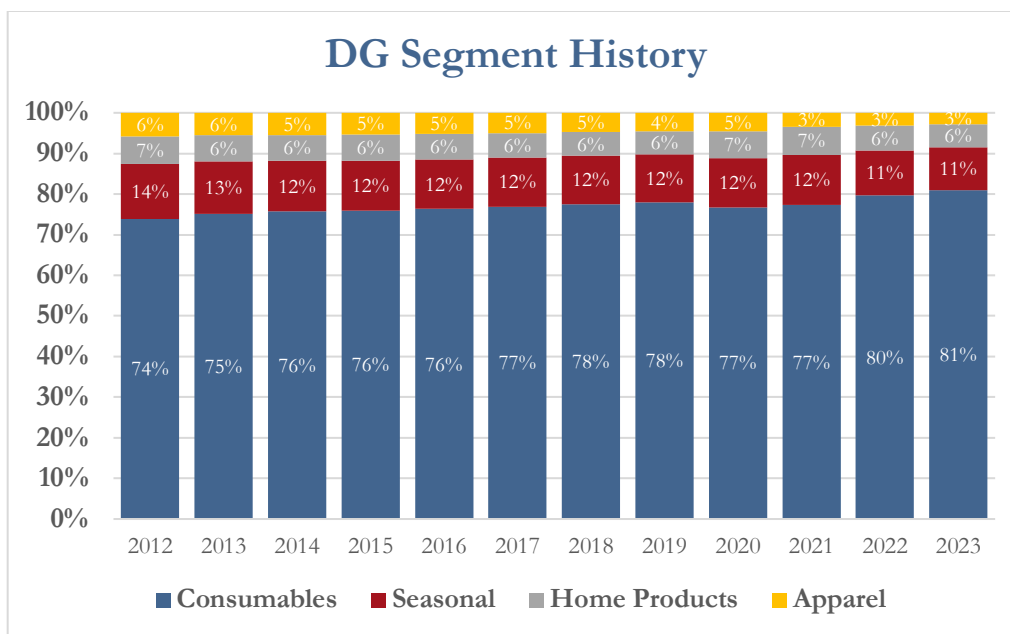
Thing three, regrettably there is a list, involves labor and distribution. We can build a sub-list here. The typical store always has a manager or assistant manager on site. Often there is only one additional hourly and/or part-time employee on hand. In the days before 17 or 34 cooler doors, before produce and

perishables in the store and before 10,000 SKUs to stock and restock, a team of two could get the work done, keep the store tidy and man a cash register or two. Adding coolers and now produce, what the company calls their “Fresh” initiative, complicates things. On the front end, distribution becomes more complex. Refrigerated warehouses and trailers are required. Where the company typically needed one distribution center per 1,000 stores, that is no longer the case. When Fresh rolled out, Dollar General outsourced the new aspects of distribution. Two years ago, management decided they could save several hundred million dollars by taking the task in house, requiring smaller stand-alone distribution centers and more company-owned tractors and trailers. More recently, they believe consolidating refrigerated areas of newer distribution centers will be more economical. Evolution here and we are unsure as to how successful this will be.

On the labor issue, wages rose to keep up with inflation and maintain morale. Management learned this seven or eight years ago with manager compensation and turnover. Margins suffer for a time until pricing catches up in the stores. But per the above discussion on more coolers and now Fresh in the stores, stocking shelves become more difficult. This is a similar issue to Starbucks now having drive-through windows and mobile pay in addition to an in-store line and customers. Labor shortage, especially at peak times. Instead of increasing labor in the store by 50% from two employees to three, Dollar General introduced roving employees who are on hand at times of peak stocking, peak store traffic or simply to freshen the produce section. Wilted lettuce reduces sales of everything. Fresh needs to be fresh.

An interim stop gap to solving the labor issue was perhaps one of the great management blunders in retail (it’s an industry where blunders happen frequently – you stay on top of them or you perish, like perishables). You are ahead of me if you are thinking self-checkout. Despite theft growing nationally across all of retail (except Costco and high-end luxury), Dollar General leaned in on technology, and trust, and at times had *no employee at the front of the store checking out customers*. This initiative fortunately died an early death. Management looks to 21 basis points of margin improvement by shrinking shrink. It won’t be eliminated but it won’t be self-inflicted and as costly. There are more retailers than retailers, reminiscent of Morris Shapiro’s saying that there are more banks than bankers.

Dollar General faces several risks, some of which will manifest in lower-than-historic margins and some of which will require skill and discretion in identifying and handling. The internet and Amazon are clearly a competitor and taking share, particularly in higher-margin discretionary categories. Walmart tried its hand in dollar-store discount retail and had their heads handed to them, suggesting a potential dollar store moat. In fact, Dollar General purchased 42 Walmart Express stores when Walmart exited the concept a decade ago. However, the giant retailer from Bentonville has done a marvelous job mimicking Amazon and is driving online sales. Over the past 20 years, lower-margin (but higher turnover) consumables at Dollar General increased from 70% of segment sales mix to over 80%. At 82% in late 2023, the company found itself with too much discretionary merchandise in the store. Discounting will run its course early in 2025 we estimate, and we’ll see margin improvements, perhaps significantly so. No doubt Dollar General will find competing in discretionary goods incrementally more difficult. The rural footprint and proximity to larger competitors and the prohibitive cost of home delivery for small consumables in geographically disparate locations is one of Dollar General’s moats.



Source: 2024 DG 10-K

Dollar General is employing good form in their blocking and tackling again. Back to fundamentals. The number of SKUs in the store are being reduced. The company previously believed more items and breadth were better. Perhaps that was true years ago. Due to today's complexities with coolers, freezers and perishables, fewer is better. Costco carries about 4,000 SKUs in each warehouse (with nearly 150,000 square feet of storage space, nearly 20x the size of a Dollar General store).

Back to Semper's investment in Dollar General, having sold most of our position in 2020 at full prices, we began buying the shares back with a small position roughly at prices at which we had sold shares two and three years previously. We incrementally built a larger position as the stock declined from the second half of 2023 throughout 2024. Our position is now roughly 10% of assets.



Determining the unit economics of the Dollar General store and the ongoing margin structure of the firm is the key to where the stock is headed over time. Wall Street abhors earnings misses and loves beats. Exiting the pandemic, sell-side analyst expectations were way too high. Margins were on a roller coaster. Operating margins ran from 9.5% through 2019 to an unsustainable 10.5% in the pandemic down to likely 4.7% in the fiscal year ending January 31, 2025. The net margin rose from 5.5% to 8.0% down to perhaps 3.1%. Dollar General will announce 2024 earnings after this letter hits your mailbox.

Margins are unlikely to return to levels seen prior to the pandemic due to higher labor and maintenance capital expenses and for more of a mix skewing to lower-margin consumables. Higher traffic counts driven by improved and larger stores, reducing discounting and shrink, optimizing distribution, reducing SKUs and improving the shopping experience will serve to improve margins from today's depressed levels. Using our five-factor return attribution analysis (which you will see more of later in the letter), the expectation for excellent returns doesn't require herculean expectations. Rather, the stock is oversold and is priced for little improvement.

Dollar General has an ongoing runway to open new stores. While the cadence of new store openings is lower today as the company focuses capital on the installed base, square footage should grow at least 5.0% to 6.5% as the company opens not only new stores but remodels and opens larger stores. Management indicates the store count can grow at least to 30,000. We have no reason to disagree. Same-store-sales need not grow more than the inflation rate to expect 6.5% to 8.5% annual sales growth over the coming five to ten years. We have base-case and bear-case scenarios with sales growing only by 5.1% annually to \$52 billion over the next five years. The company suspended share repurchases but as debt is reduced and the company completes its deferred store maintenance, we expect ongoing repurchases (and favor a low share price when share repurchases resume). The net margin is highly unlikely to return to 5.5% or 6.0% but our work suggests 4.5% as reasonable. In our bear scenario, net margins only run 3.5%. The stock is selling today at 13x, capitalized on a depressed 3.1% net margin. The depressed multiple makes the present dividend yield quite attractive and additive to total return earned prospectively. Our range for the P/E multiple is 15x to 20x. The investor is likely to see a 20x multiple assuming margins recover, and the company is back in the good graces of investors.

Using a conservative set of assumptions has the stock returning 257.9% or 29.1% annually in our base case from current prices. The bear case still produces a more than double total return, returning 114.5% cumulatively or 16.5% per year. From our higher cost basis, our returns will be lower than from current prices but will still achieve a good return. For perspective, the base case scenario returns the stock price to only 90% of its 2022 high.

Dollar General 5-Year Base Case FY 2024 to 2029

5 Years	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
1/1/2025	5.72	2.36	184.36	40.56	220.0	3.1%	12.8	3.2%	73.00	
1/1/2030	11.77	4.86	261.55	52.00	198.9	4.5%	20.0	2.1%	235.39	
Growth %	105.8%	105.8%	41.9%	28.2%	10.6%	45.0%	56.7%	-35.0%	222.5%	257.9%
Annual Avg	15.5%	15.5%	7.2%	5.1%	2.0%	7.7%	9.4%	2.7%	26.4%	29.1%

Dollar General 5-Year Bear Case FY 2024 to 2029

5 Years	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
1/1/2025	5.72	2.36	184.36	40.56	220.0	3.1%	12.8	3.2%	73.00	
1/1/2030	9.15	3.78	261.55	52.00	198.9	3.5%	15.0	2.8%	137.31	
Growth %	60.0%	60.0%	41.9%	28.2%	10.6%	12.8%	17.5%	-13.4%	88.1%	114.5%
Annual Avg	9.9%	9.9%	7.2%	5.1%	2.0%	2.4%	3.3%	3.0%	13.5%	16.5%

Our scenarios and more importantly the return earned on our capital could be wrong to the downside if the low-end consumer never catches up with inflation and can't afford to live and consume at the standard prior to the pandemic. Inflation was very tough on retailers in the 1970s. The one ace up Dollar General's sleeve on this front is SNAP and federal benefits. Even if the current executive branch of the government is successful in eliminating waste, SNAP is authorized as open-ended mandatory spending funded by congressional appropriation. The investor shouldn't bank on governmental assistance to the consumer as the catalyst to an investment case, but there is no expectation not to see elevated SNAP funding in the next recession, or if inflation taxes low-income households further. Tax credits, likewise, are established as provisions of the tax code and are expanded during difficult economic circumstances.

We are also wrong if the runway to expand stores is more limited than expected. We watch cannibalization closely. We are also wary of Dollar General's westward expansion. The store base was largely in the southeastern, eastern and midwestern U.S. Roughly 10% of the stores are now in the west. A third western distribution center just opened in Colorado. A geographically more disparate footprint means the increased distance from distribution to store, and the lower store concentration must translate to lower profitability per store. Naturally this depends on pricing power and a lack of competition. Stay tuned on this front.

If margins decline further, then returns on equity and on capital may decline to below Dollar General's cost of capital. Those returns are overstated due to book value being eroded by share repurchases made above book value. This is not a bad thing at all. It simply means that returns as presented per GAAP accounting are irrelevant. We want to see incremental returns improving against a static store base and against incremental growth in units and square footage. At the unit level, stores earned approximately 20% on capital before assigning corporate SG&A. Returns were therefore high teens through 2019. At today's depressed levels they are low teens and nearing 10%. A 2% net margin would suggest the business no longer earns its cost of capital despite reporting profits. Remember, it's not the profit margin but the return on capital and on equity capital, properly measured, that matters. Costco and Dollar General at matching 3.0% profit margins earn vastly different economic returns.

We are overall quite optimistic about the business of Dollar General, and likewise its Dollar Tree competitor. The latter is navigating many of the same issues as Dollar General and a host of other issues unique to both Dollar Tree and their second chain, Family Dollar. Inflation and a more complex operating model combine to permanently reduce profitability relative to where it was six years ago. Operating at our estimate of normalized margins and with a runway to grow, the system footprint for many years allows for still attractive profits on capital employed. We have an embedded call option on a strengthening consumer. The stock is priced as though the business is broken, which is often the case over our history before the investing world catches on that it's not.

Semper and the S&P – A Wide Disparity in Leverage and Valuation

Grouping Semper’s equity holdings as though they are a single business is a useful method for assessing portfolio fundamentals and valuation. Positions are consolidated using common-size balance sheet and income statement figures, leverage and profitability ratios and some valuation measures. Our aggregated “company” then stacks up against the S&P 500, similarly grouped as though all 500 businesses were likewise a single very large business. The common-size method references all measures against a unitized \$100 in sales, allowing for meaningful comparative margin, leverage and profitability analysis.

All income statement and balance sheet figures in the upper blue section of the table below are in proportion to \$100 in constant sales. Valuation measures in the lower, purple-shaded portion are multiples and yields. A progression of yearly common-size periods illustrates the impact of stock prices relative to business fundamentals and allows for ease of margin analysis by eliminating annual sales volatility.

Key Common-Size Figures for the Semper Portfolio and S&P 500

	2024		2023		2022		2021		2020		2019	
Income Statement Figures	S&P 500	Semper	S&P 500	Semper	S&P 500	Semper	S&P 500	Semper	S&P 500	Semper	S&P 500	Semper
Sales	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
Earnings Before Interest and Taxes	17.1	11.6	16.5	12.8	16.1	14.4	17.7	16.3	12.7	15.5	15.9	17.5
Interest Paid	2.2	1.0	2.1	1.0	2.1	0.9	1.6	0.8	1.7	1.6	2.4	1.3
Pre-Tax Profit	14.9	10.6	14.4	11.8	14.0	13.5	16.1	15.5	11.0	13.9	13.5	16.1
Tax Rate	20.8%	20.3%	20.5%	20.8%	19.7%	21.0%	17.5%	22.8%	18.5%	21.6%	17.5%	20.0%
After-Tax Profit (operating income)	11.8	8.5	11.4	9.3	11.2	10.6	13.3	12	9.0	10.9	11.1	12.9
Dividends	3.9	1.5	3.8	1.7	3.9	1.8	4.0	2.2	4.4	2.4	4.2	2.4
Retained Earnings	7.9	7.0	7.7	7.6	7.3	8.8	9.3	9.8	4.6	8.5	6.9	10.5
Balance Sheet Figures												
Equity (Book Value)	\$59.5	\$51.2	\$57.0	\$57.5	\$58.4	\$63.1	\$64.7	\$75.7	\$66.9	\$82.4	\$64.1	\$101.2
Debt	72.5	33.7	70.4	32.5	71.4	31.0	78.1	38.8	86.4	47.6	79.0	43.7
Cash	22.7	21.4	23.1	24.3	18.3	25.9	25.3	31.3	29.2	51.3	19.1	28.5
Net Debt	49.8	12.3	47.3	8.2	53.2	5.1	52.8	7.5	57.1	-3.7	59.8	15.3
Total Capital (Equity + Net Debt)	109.3	63.5	104.3	65.7	111.6	68.2	117.5	83.3	124.1	78.7	123.9	116.4
Leverage Ratios												
Debt / Equity	121.9%	65.8%	123.5%	56.6%	122.3%	49.1%	120.7%	51.2%	129.1%	57.7%	123.2%	43.3%
Net Debt / Equity	83.7%	24.0%	83.0%	14.3%	91.1%	8.1%	81.6%	9.9%	85.4%	-4.5%	93.4%	15.1%
Net Debt / Total Capital	45.6%	19.4%	45.4%	12.5%	47.7%	7.5%	44.9%	9.0%	46.1%	-4.7%	48.3%	13.1%
Profitability Ratios												
EBIT / Total Capital	15.6%	18.3%	15.8%	19.4%	14.5%	21.1%	15.1%	19.6%	10.2%	19.6%	12.7%	15.0%
Return on Equity	19.9%	16.6%	20.0%	16.2%	19.2%	16.9%	20.6%	15.9%	13.5%	13.2%	17.3%	12.8%
Return on Total Capital	12.4%	14.6%	12.5%	15.5%	11.6%	16.7%	12.4%	15.1%	8.3%	15.4%	10.5%	12.0%
Key Valuation Figures												
Price (Market Value)	\$298	\$87	\$255	\$96	\$219	\$101	\$304	\$128	\$279	\$136	\$232	\$174
Price / Sales	3.0	0.9	2.6	1.0	2.2	1.0	3.0	1.3	2.8	1.4	2.3	1.7
Price / Book Value	5.0	1.7	4.5	1.7	3.8	1.6	4.7	1.7	4.2	1.7	3.6	1.7
Price / Earnings	25.2	10.3	22.3	10.3	19.5	9.5	22.9	10.7	31	12.5	20.9	13.5
Earnings Yield (Earnings / Price)	4.0%	9.7%	4.5%	9.7%	5.1%	10.6%	4.4%	9.3%	3.2%	8.0%	4.8%	7.4%
Dividend Yield	1.3%	1.7%	1.5%	1.7%	1.8%	1.8%	1.3%	1.7%	1.6%	1.8%	1.8%	1.4%
Retained Earnings Yield	2.7%	8.0%	3.0%	8.0%	3.3%	8.8%	3.1%	7.6%	1.6%	6.3%	3.0%	6.0%
Dividend Payout Ratio	33.0%	17.5%	33.3%	17.5%	34.8%	17.0%	30.2%	18.3%	48.9%	21.9%	37.9%	18.6%
Enterprise Value / EBIT	20.4	8.5	18.3	8.2	16.9	7.4	20.2	8.3	26.5	8.5	18.4	10.9

Figures are rounded and may not sum precisely; Index data are estimates for 2024 and updated for 2023 FINAL.

Sources: Semper Augustus; Standard & Poor's; Bloomberg

The table dates to 2019, immediately preceding the pandemic, which sent much of the global economy into a never-before-seen recessionary lockdown. Certain businesses and industries benefitted while many were harmed. Industries experienced a boomerang effect, where profound weakness (or strength) was in short order followed by the opposite, a regular occurrence in and following recessions. Business analysis should look back to the period prior to distortion, in this case 2019. Comparing 2020 against 2019 or 2021 against 2020 can be distortively meaningless. Now sufficiently removed from the extremes allows for a comparison of 2024 against the prior couple of years and against a more “normal” 2019.

The letter frequently mentions 2021 likely marking a secular peak in U.S. capitalization-weighted stocks. If correct, margins and valuations will recede from peak levels, consistent with past downturns. Observing changes in fundamentals and valuation from the peak is also useful to analysis. Those unwilling or incapable of contemplating the prospective effects of a market revaluing are often those who suffer most on the backside of a peak.

The Semper portfolio is undervalued, both absolutely and certainly relative to the capitalization-weighted stock market. The index 25.2x price-to-earnings multiple is 13% higher than at 22.3x a year ago and 10% higher than in 2021. Net margins climbed in 2023 and 2024 but remain below 2021’s record.

Profit margins on the index declined from 13.3% in 2021 to 11.2% the following year, recovered slightly to 11.4% in 2023 and continued higher to 11.8% at the close of 2024. The margin is simply the \$11.82 (rounded to 11.8) of after-tax unitized profit as a percentage of \$100 in sales.

Let’s put our common-size analysis in perspective using the S&P 500’s per-share sales and earnings figures. Common-size analysis, shown above, holds sales at a constant. Growth in sales was far from linear during and immediately after 2020’s pandemic. Dollar sales growth correlates to growth in nominal GDP. Both declined in 2020. Operating leverage worked in reverse, sending earnings per share for the index down 22.1% while sales dropped 3.7% per share, compressing the profit margin from 11.1% in 2019 to 9.0%.

S&P 500 Sales, Earnings and Margin Figures

Year	Sales Per Share	Growth	Earnings Per Share	Growth	Profit Margin	Total Return
2017	1,231.57	7.0%	124.51	17.2%	10.1%	21.8%
2018	1,343.00	9.0%	151.60	21.8%	11.3%	-4.4%
2019	1,415.01	5.4%	157.12	3.6%	11.1%	31.5%
2020	1,362.39	-3.7%	122.37	-22.1%	9.0%	18.4%
2021	1,566.80	15.0%	208.21	70.1%	13.3%	28.7%
2022	1,752.90	11.9%	196.95	-5.4%	11.2%	-18.1%
2023	1,872.30	6.8%	213.53	8.4%	11.4%	26.3%
2024*	1,972.11	5.3%	233.28	9.3%	11.8%	25.0%

*estimated for 2024

Sales snapped back in 2021, growing 15.0% per share. Largely for cost cutting during the downturn, earnings per share surged to 208.21, 70.1% above 2020’s depressed level but fully 32.5% higher than in 2019. The 13.3% profit margin recorded in 2021 was by far a record. Thanks in part to monetary and fiscal policies undertaken in 2020 (and employed for too long), inflation surged by the back half of 2021 and throughout the next two years. Per-share sales followed 2021’s 15.0% increase, growing 11.9% and 6.8% over the next two years. The pace of change slowed in 2024 to our 5.3% estimate. Rapid top-line growth matched the advance in nominal GDP, but with inflation running hot, real GDP wallowed and

corporate profit margins suffered from rising costs, including higher interest rates. A year-by-year common-size analysis fails to capture volatility in sales growth.

Net profit margins are unlikely to return to 2021's 13.3%. I'm wrong if software and data continue to eat the world and grow disproportionately, continuously capturing a larger share of economic output. However, should inflation and higher interest rates persist, margins will certainly suffer, surely for the wide body of companies and industries with fixed costs and sizable financial leverage.

The energy sector cyclically impacts index margins. When earnings per share for the S&P declined 22.1% in 2020, approximately half of the decline was due to energy's share of total index profits falling from a historically low 3.2% in 2019 to a negative 8.1% in the pandemic year when the front oil future briefly traded with a minus sign and the industry bled red ink (and many individual stocks traded at miniscule multiples to depressed cash flows). By 2022, energy contributed a record 12.8% of index profitability. Energy company profits in 2024 are half of 2022's peak levels and the sector's contribution is back to only 5.6% of index total earnings. Semper's energy positions declined during 2024. We had trimmed some at higher prices to finance purchases outside of energy and were again increasing our investments in the energy patch in late 2024.

Energy Sector Contribution to S&P 500 Operating Earnings

2019	3.2%
2020	(8.1%)
2021	4.4%
2022	12.8%
2023	7.9%
2024	5.6%

Semper and the S&P – Behind the Numbers

The Semper portfolio is undervalued both relative to the capitalization-weighted S&P 500 and absolutely. The common size analysis is a phenomenal tool revealing both valuation and business quality advantages against the stock market. It further demonstrates advantages of active value management. Trimming more fully valued positions to shift investment capital either to new portfolio holdings or to increase position size in more undervalued holdings defines an investment process revolving around dual margins of safety in price and business quality.

Glancing across the row for Price (Market Value) and observing a steady decline in the Semper portfolio from \$174 in 2019 to \$87 in 2024, the reader might conclude the portfolio declined 50% over the past five years. Fortunately, that's not the case! Our stocks returned 76.3% over the five-years or 12.0% per year. Our stocks earned (with dividends) 11.9% in 2020, 27.3% in 2021, a small 2.1% gain in 2022 (when the index lost 18.1%) and 12.1% in 2023 followed by 8.2% last year. How does price fall 50% in the table yet returns are up 76.3%? Remember, this is a common-size analysis, and we are *active* investors.

Portfolio activity serves to maintain a low portfolio price relative to earnings and thus a high earnings yield over time. Portfolio turnover averaged a low 15% annually over 25 years. Modest activity adds considerably to returns. Time is typically required for share prices to reflect underlying business fundamentals. Modest turnover suits the process here well.

To illustrate active management, observe what appears as a steady decline in Semper's aggregate profit margin. The profit margin appears as "After-Tax Profit (operating income)" near the top of the table. In

our common size analysis, a decline from \$12.90 to \$8.50 in earnings per \$100 of sales means a 34% decline in the profit margin ($8.50/12.90$). Are profits in the portfolio dropping? Why yes, they are – as a percentage of sales. This could be a bad thing, particularly if examining a single company or an industry. But this is an *actively managed* portfolio of companies lumped together, and the composition of companies dictates the margin structure. You’ve likely heard us say a million times that profitability is properly measured against the capital of the business, not against sales. Over the same five years the portfolio return on capital rose from 12.0% to 14.6% and over time generally averages a mid-teens percentage.

We’ve increased our investment in retailers over the last two years, particularly to dollar stores. Retail is typically not a high profit margin business. The merchant sells goods at a modest markup from cost. Absorbing fixed and variable overhead (selling, general and administrative expenses, interest and taxes) generally leaves a few cents for each dollar of revenue. It’s the frequent turning of inventory across assets (land, building, equipment) and management of working capital that combine to produce a return on total capital employed. Costco, as an example, has seen its net profit margin rise from 1.7% to 2.9% over the last twenty years. Sounds low, except the margin does not indicate the degree of profitability (it can be favorable to see a rising margin). The business, despite an apparent low margin, earns over 20% returns on its capital.

Our combined investment in four retailers, Dollar General, Dollar Tree, Starbucks and Five Below, total nearly 20% of our invested capital. Increasing our allocation to retailers creates a big downward impact on the *portfolio* profit margin. Our estimate for the combined retailers’ profit margin is roughly half of the overall portfolio’s. If we were to again purchase Costco for the portfolio, one of our favorite companies, at its prevailing 53x multiple to earnings, we’d see a further reduction in the portfolio margin as Costco earns a lower net margin than the current retailers in the portfolio. Of course, we’d be paying a sky-high price for a great company, and likely demonstrate the maxim that even the wonderful business at the wrong price can make for a terrible investment.

Balance sheet financial leverage for the S&P 500 index remains at record levels only manageable in a world of extremely low interest rates. Net debt to total capital, seen in the Leverage Ratios section of the table, consistently hovered at the mid-forty-percent level in recent years, ending 2024 at 45.6%. Rising rates over the past three years pushed the interest burden higher for companies employing large amounts of short-term debt, those refinancing maturing debt and those raising new debt capital.

Faced with refinancing large amounts of maturing corporate debt, CFOs cheered the Fed in cutting its Fed Funds rate this year. Record-tight credit spreads helped alleviate interest cost on newly issued or refinanced debt, but few expected longer-dated Treasury yields to rise to the degree they did after the Fed first cut the money rate. Net debt remains at just under half of total capital, meaning debt and equity are equally employed in the capital structure when including cash in the mix. “Higher for longer” interest rates, if that’s the path (deficits may dictate that’s the case), will negatively impact profits and margins. Over the past couple decades, lower interest rates contributed to roughly half of the doubling in the index profit margin to 2021’s 13.3% peak despite record levels of debt relative to total capital, revenues and cash flow.

The side-by-side comparison of fundamental measures demonstrates the degree of undervaluation and strong capitalization in the Semper portfolio against the index. Semper’s 9.7% earnings yield, identical to last year’s, is way more than double the index’s slightly less than 4.0% yield. Of our 9.7% earnings yield, 1.7% is paid to us as dividends. The 8% balance is retained by our portfolio companies and invested for what we work to ensure is to our benefit. Semper’s businesses are reinvesting today at an aggregate 16.6% return on equity, up from 16.2% last year and 12.8% before the pandemic. With only 19.4% of net debt employed as a proportion of total capital (versus 45.6% for the index), our businesses earn 14.6% on

total capital – nearly as much as on equity (the larger the debt in the capital structure, the lower the return on capital relative to the return on equity – the business with zero net debt earns equal returns on equity and on capital). By contrast, the *much* lower 4.0% S&P 500 index earnings yield produces a lower 1.3% dividend yield with only 2.7% left for company reinvestment compared to our 8%. The differential works to our advantage over time, particularly considering what our companies do with their retained earnings versus what is done by the aggregate of the S&P 500. Price matters, and so does capital allocation.

The portfolio receives a slight 17.5% of profits earned by our companies as dividends. Our large investment in Berkshire skews the payout lower, as it pays no dividend. The balance of profits is reliably being reinvested at the portfolio's 16.6% return on equity. Extremely important to our investment approach is determining how well company managements reinvest profits. The fact that portfolio businesses use so little debt means a substantial proportion of our 16.6% return on equity is on a *largely net unleveraged* basis. Compare again the difference here with the index. **The S&P 500's 33.0% dividend payout as a proportion of profits is nearly double Semper's but produces a lower 1.3% dividend yield versus our 1.7%. Our dividend yield has been 1.7% to 1.8% for the last five years. The S&P's is approaching a record low and down from 1.8% in recent years. Higher stock prices equate to lower yields. Lower prices yield higher yields.**

From the table, the index has a higher return on equity than Semper's 16.6%. However, index companies in aggregate employ substantially more debt than ours to achieve that higher return. It takes nearly as much net debt (debt minus cash) as equity in the index companies' capital structure to produce a 3.3% higher return on equity. However, with materially less debt employed, Semper's companies earn 14.6% on capital whereas the index companies only earn 12.4%. Return on capital is a far more important measure than return on equity, particularly when large amounts of debt are employed. We've seen a significant rise in bankruptcies over the past year. You don't often see bankrupt companies with little or no debt.

The price paid for each dollar of Semper equity (book value) is 1.7x, a consistent level over the past five years. The index investor is paying a record 5.0x for each dollar of book value, against 3.6x five years ago. Paying nearly three times as much for each dollar of book value to earn 19.9% instead of 16.6% on equity, but to also earn only 12.4% on capital versus our 14.6%? Our aggregate business earns significantly more on capital employed and uses far less debt in the capital structure. The S&P declined in 6 of the 26 years Semper has stewarded your capital. We think price matters. We think business quality matters. Bear markets often accompany recessions. We do know avoidance of excessive leverage keeps the player in the game during weak economic periods. As Oaktree Capital Management's Howard Marks often says, "Never forget the six-foot-tall man who drowned crossing the stream that was five feet deep on average."

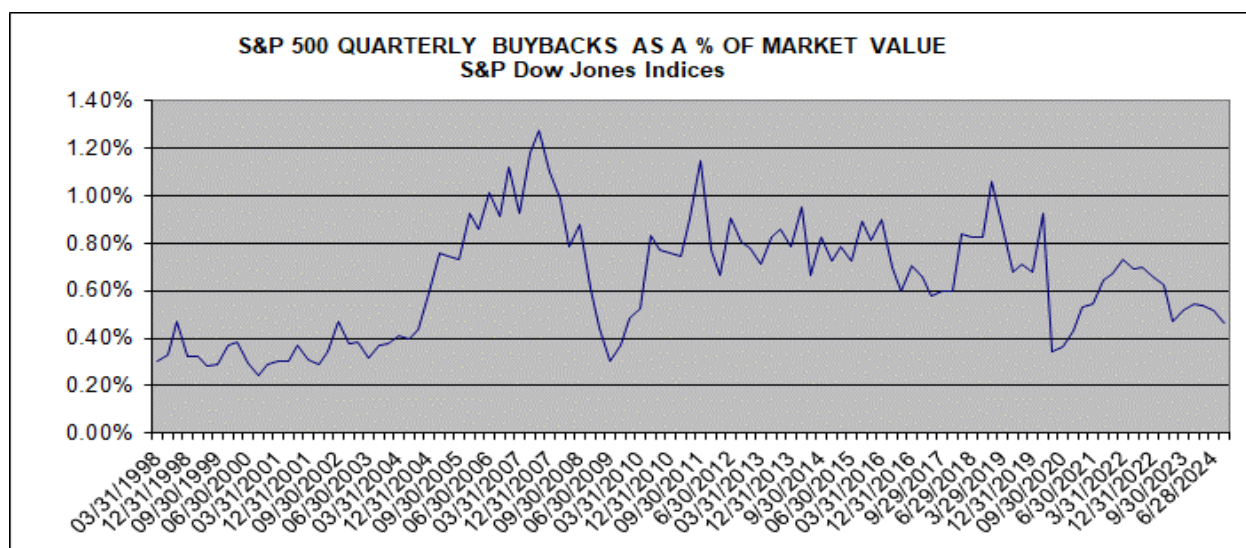
Roughly repeating from last year, "The return on equity as a multiple of the price-to-book ratio yields the earnings yield. A 20% index return on equity divided by a 5.0x multiple to book yields 4.0%, which happens to be the index's earnings yield (rounded up as the return on equity is 19.9%), which happens to be the inverse of a 25x P/E multiple. Semper's 16.6% return on equity is on a lower 1.7x multiple to book, which gets us to our 9.7% earnings yield, which is the inverse of our 10.3x multiple to earnings. It all gets us to the same place. **We think we are getting far more for far less with far less debt.** At least that's what the math says. Price is what you pay; value is what you get.

Book values (or equity) are significantly understated for much of the S&P 500, which inflates the calculated return on equity. Share repurchases at large premiums to book value drive stated book values lower and lower. Write-offs of assets and equity averaging 15% of operating earnings yearly since the mid 1980s further understate equity. Now, thanks to inflation, replacing depreciated assets comes at a higher cost for many companies than depreciation expense would suggest. Said differently, maintenance

capital expenditures will in many cases exceed depreciation expense, which is not generally the case absent inflation. This is a hugely important point in an inflationary world.

After a third of profits are sent to S&P 500 index shareholders as dividends, in many years *more than 100%* of the retained balance is used repurchasing shares to merely offset dilution created in giving 2% of the average company to insiders each year, paid as options and restricted shares. Share reduction of the index companies was a modest 0.6% per annum for the past decade. Said differently, index companies spent roughly two-thirds of profits purchasing 2.7% of their market capitalization each year, yet only reduced the share count by 0.6% annually. Retained earnings for the index are NOT reinvested at the return on equity but are spent repurchasing expensive shares. Repurchasing shares at high prices destroys capital. Shares bought at today's 25.2x P/E earn just under 4.0% for shareholders, not the index's 19.9% return on equity that one might expect. If no profits are left after paying dividends and repurchasing shares, what funds growth capital expenditures and growth research and development?

S&P 500 combined share repurchases once reported for 2024, are likely to surpass 2022's record \$923 billion. A quarterly record was set in 2022's first quarter when firms spent \$281 billion buying shares totaling 69% of operating profits (before write-offs). Repurchases fell nearly 14% to \$795 billion in 2023 from 2022's record (the first two quarters of 2024 are in the books and I'm estimating on the second half cadence). Repurchases are in steady decline since that early 2022 quarterly record.



Source: Standard & Poor's

The chart above is staggering when placed in context. Over more than a quarter century, the companies in the S&P 500 spent two-thirds of net income repurchasing shares. They purchased 2.7% of market value on average each year. Over the same quarter century there has been no change in shares outstanding. The transfer of wealth to insiders is beyond comprehension. Yes, the repurchases support stock prices, and for that today's index investor is rewarded with an earnings yield below 4%. That's less than the yield on a 10-year U.S. Treasury. Bringing to mind Dr. Zachary Smith's "Oh, the pain, the pain!" from *Lost in Space*.

\$233.28 in expected 2024 earnings per share for the S&P 500 equates to \$1.975 trillion. Repurchasing perhaps \$950 billion, repurchases will total 48% of earnings, a lower proportion of income spent buying shares over the last couple decades. Repurchases decline in recessions when profits fall. They plummet during crises. They fell off a cliff during the pandemic and in the 2008-2009 global financial crisis (which happened to be the moments when shares were in the tank and fundamentally attractive – oddly buy-high

sell-low behavior). We'll see shortly that outside the Magnificent Seven earnings are lower for the 493 remaining companies over the last three years. The index share count (measured by its divisor as reported by S&P Dow Jones) rose a meaningful 1.5% in the second half of 2023 and another 0.9% in 2024. Over the last 3.5 years the share count is up 2.4%. The share count goes up when firms raise net new equity or don't offset dilution, both of which happen when things are bad. Profit margins are down. Costs are up. We touched on maintenance capital expenditures. Labor costs are up. Interest expense is rising.

Investors unfamiliar with the statement of cash flows are highly encouraged to get up to speed, perhaps while sitting in a duck blind. We have sources of cash and uses of cash. If profits are weakening and needs for cash rising, the common-size analysis discussed above will prove its importance.

Expected Returns

The intrinsic value of any financial asset is the present value of the stream of cash the asset will generate in the future, with the present values of each future cash stream discounted at an appropriate interest rate. Valuing a corporate bond is somewhat straightforward – you know the coupon interest rate, the maturity date, and the price of the security and can make a reasoned estimate of the riskiness of the corporation's creditworthiness and expected ability to pay all coupons and the principal at maturity. The more risk, the higher yield the investor should demand versus a less risky borrower like the U.S. Treasury. I'm skipping the obligatory obvious joke about government finances.

Like bonds, businesses also have coupons, which they will earn on behalf of their owners over time. The problem here is the coupons aren't contractually stated or guaranteed. These are the future cash earnings of the business.

The Semper investment process centers on evaluating ongoing competitive positions of companies we own and the durability and predictability of these future cash earnings. Further complicating the task is that after reasonable estimates of these future profits across all of time immemorial are made, the investor must consider the capability of management or of the business to reinvest any cash earnings not paid as dividends. We are far more confident in the ability of some businesses to durably produce profits and to wisely decide how to allocate them. Using the manic-depressive nature of Mr. Market, once an estimate of intrinsic value is established, we have the luxury of only buying or selling when prices deviate from intrinsic value and we can shift capital to homes where more opportunity exists relative to risk.

Provided that assessments of *economic* profitability prove durable, we should earn at minimum the earnings yield on the portfolio, today at 9.7%. From a core base of the earnings yield, additional returns are expected and can be articulated two ways. First, to the extent that process and discipline allow us to occasionally purchase businesses for less than they are worth (during Mr. Market's depressive phase), then any accretion to fair value is added to the earnings yield over some period of time. Paying 75 cents on the dollar of intrinsic value, an additional 33% ($100/75=1.33$ or 33% increase) is expected. From two-thirds of value we'd expect an accretion of 50% ($100/66.67$). Buying an asset at half of intrinsic value yields a double ($100/50$). A disciplined process produces the expected return over time. For much of Semper's tenure investing your capital, the portfolio traded at a low-double-digit multiple to earnings, often at a 7% to 9% earnings yield. At a typical purchase discount of a third to a quarter of value, we've seen a "bonus" 2% to 4% additional annualized return over time on top of the earnings yield, so a 9% to 13% return on the stock portfolio before any drag from cash (or addition from cash when equity returns are below cash yields) in client portfolios and before management fees. The occasional opportunity arises at half off or less.

Long-term return expectations begin with the current 9.7% earnings yield. A higher-than-normal yield, again the inverse partner to a lower-than-typical P/E multiple, suggests the portfolio discount to intrinsic

value is wider today than at most times. Indeed, at 60% of intrinsic, we'd add 2% to 4% upside earned per year on average over a period of years reflecting an expected upward accretion closing the discount. This may sound outlandish but adding the premium to today's earnings yield seems reasonable over time and would produce returns somewhat higher than the portfolio earned on average over the past quarter century. Periods of decline, sometimes substantial, will certainly accompany Semper's returns and we will make our share of mistakes, but armed with a historically low absolute and relative valuation seems a prospective advantage.

Perhaps a better way to describe expected return is to again begin with the earnings yield as a base and add the return generated on earnings not paid to us as dividends, but at the rate of return on retained earnings. Expected return begins with the earnings yield and trends to the underlying return on equity over time. The dynamic holds over long time periods.

This example will likely be repeated in ongoing annual letters. We are durable earning power investors. The profits generated by our portfolio companies are the base from where returns are derived. Much effort is spent assessing the durability of current and future profitability. Understanding how profits inure to the benefit of shareholders is critical. The earnings yield consists of two components – the dividend yield and what I refer to as the retained earnings yield.

$$D + RE = E$$

$$DY + REY = EY$$

Where:

D = Dividends
DY = Dividend Yield

RE = Retained Earnings
REY = Retained Earnings Yield

E = Earnings or Net Income
EY = Earnings Yield

Illustrating the derivation of return, begin with the Semper portfolio's aggregate 10.3x P/E multiple. The inverse of the P/E multiple is the earnings yield, so E/P is 9.7%. It is the earnings produced by a dollar of current market value (or price). At the current portfolio multiple to earnings, each \$1 million of invested assets produce \$97,000 in profit, a 9.7% earnings yield. Given the proportion of profits paid as dividends and at year-end, prices resulted in a 1.7% dividend yield. The remainder of profits not paid as dividends, 8.0%, are retained. It's how the 8.0% retained earnings yield, or \$80,000 per \$1 million of market value, is spent or allocated that drives incremental return. Closing the circle on the math, the dividend payout ratio can be determined as the dividend yield divided by the earnings yield, so $(1.7/9.7) = 17.5\%$.

Profitability is properly measured not so much at the margin level (though changing margins can be telling) but against the equity capital and total capital invested to produce it. Profit must be measured not only against equity and total capital already employed but also against the incremental portion of profits not paid as dividends. Some companies have abundant opportunities for reinvestment while others do not. One of the most critical aspects of our research is determining those opportunities, or lack of them, and then measuring returns on any retained earnings.

Semper's businesses earn 16.6% on equity capital and 14.6% on total capital. The return on capital is not far below the return on equity, given the lack of net debt on the collective balance sheet. Many portfolio companies use no net debt or have more cash on the balance sheet than debt. Expected returns begin with the present 9.7% earnings yield and trend toward the 16.6% return on equity over time.

A quick note: The earnings yield, or inverse of the P/E multiple, is a point-in-time measure based on current stock prices. Returns on equity and on capital measure profitability against balance sheet figures. If we woke up tomorrow and our stock prices all doubled, the Semper portfolio P/E would likewise

double to 20.6x, meaning the earnings yield would be halved to 4.85%. Returns on equity and on capital would be unchanged. Remarkable that, on a doubling of our stock prices, the portfolio's valuation at 20.6x would remain lower than that of the market. We don't intrinsically value the portfolio as high as 20.6x, nor do we think the S&P is worth 20.6x and certainly not worth its present 25.2x multiple.

It's always worth repeating comments on what amounts to always paying "premiums" when investing in common stocks. From last year's letter:

Any new or incremental Semper investments deploying proceeds from dividends, new capital (deposits) and proceeds from portfolio sales and trims generally suffer the fate of a drag against returns if the earnings yield at purchase is lower than the return on equity of new shares acquired. In our experience this is typically the case. I've attempted explaining this in past letters and don't think it's been well described. Perhaps the best example is with the return experienced by a fixed-income investor. Presume the purchase of a 30-year bond at par paying a 5% annual coupon. The investor that happens to reinvest all annual coupon payments at the like 5% initial yield will earn 5% over the life of the bond. However, if interest rates permanently fall below 5%, then all reinvested coupons necessarily mean the investor's total return is less than 5%. Something similar would be true if higher subsequent rates prevail and the investor will earn more than 5%.

In the world of stocks (at least as we approach it), we frequently purchase shares with high-single-digit earnings yields (low teens P/Es). If the initial earnings yield averages 8% AND our companies earn 8% on current equity and future retained earnings, then we are likely to earn about 8% over time. You can have interim changes in multiples to earnings and to equity but the investor in stocks is generally going to earn the return on equity over very long periods of time. You can find a section on this subject in our 2018 annual letter in a section titled, "The ROE You Will Not See." The gist of the section discusses the payment of premiums at the outset of purchase concept and delves into why long-term equity investors have not earned the very long-term 13% or so return on equity. Think write-offs, write-downs, bankruptcies, recapitalizations, overpaying in share repurchases....Just know that it's only the long-term investor in businesses (not stocks as trading vehicles) that can expect to see an initial earnings yield drift toward the return on equity of the business over time. Why are banks typically horrible investments over decades? They earn a crappy long-term return on equity because they have to recapitalize at every crisis. Why have Chinese stocks performed terribly over decades? Well, lots of reasons, but Chinese companies rarely run their operations with a return-on-capital motivation. Many are state-controlled and invest not for profit but for growth, or for graft...

Portfolio activity must add enough value to overcome the drag of always having to pay the multiple to earnings with the proceeds from any portfolio sales (and that's without considering taxation). I think we do this well, but it's very difficult for most active investors to do so. In my experience, few investors even contemplate or understand this hurdle when selling a position. Opportunity cost, remember? There exists the alternative to not sell. It's this understanding that contributes to Semper's generally low but opportunistic portfolio turnover.

Unlike the majority of publicly-traded companies, most of our portfolio businesses have opportunity sets to invest retained earnings at mid-teens or above returns on equity. Berkshire Hathaway retains all profit and conservatively (and very predictably) earns 11-12% on equity capital. Others can reinvest some but not all profit and so distribute the balance to shareholders as dividends.

A few portfolio companies have little to no opportunity set to invest retained earnings, which is where capital allocation skill and awareness of circle of competence and opportunity cost comes into play. In these cases, paying large portions of all profits as dividends often makes the most sense. When share prices are sufficiently cheap, then share repurchases with most or all profits may make the most sense, particularly in the absence of other more attractive opportunities.

Owning a portfolio of companies armed with opportunity sets for incrementally attractive investment of retained earnings is a huge advantage, in our opinion, compared to what takes place among the aggregate of the S&P 500. Spending more than all of profits not paid as dividends at decreasingly low earnings yields (on repurchases) is far from reinvesting at stated returns on equity. To have spent the vast sums of earnings on repurchases and not have reduced the aggregate net share count has proven an extraordinary destruction of capital. The harm was masked by driving prices to record multiples of all fundamental measures of value. When asset prices revert to value, only then will the giant transfer of wealth to insiders be apparent to most.

S&P Expectations – Don’t Expect Much

The S&P 500 is valued to produce disappointing returns over the coming decade and beyond. Valuations in most metrics are in line with those at prior secular peaks over the past century. Despite back-to-back mid-20% returns in 2023 and 2024, given 2022’s 18.1% loss, price relative to fundamentals matches or exceeds that of 2021, which we expect will go down as one of the great secular tops.

Our estimate of intrinsic value for the S&P 500 is \$3,500, or 15x our estimated \$233.28 operating earnings for 2024. The value estimate falls 40.5% below 2024’s 5,881.63 closing price. Heresy?

[A clarifying note: Our table and I often refer to net income and net earnings. These are one in the same and as a percentage of sales are interchangeably net margin or after-tax margin. Standard & Poor’s reports two sets of net income (and can use our terms interchangeably as well). The two are “operating” profit and “reported” profit. “Operating” in this case refers to net income *before* write-offs and write-downs, where “reported” is *after* write-offs and write-downs. None of these are to be confused with operating earnings or operating margin, which is classically earnings before interest and tax, or EBIT. Now that I’ve cleared that up...]

A 15x multiple to earnings suggests 25.2x at year-end 2024 is inflated. The lower multiple matches the very long-run multiple. High levels of credit market debt, particularly government debt and ongoing large budget deficits suggest interest rates are unlikely to revert permanently to the record lows only achieved with explosive monetary and fiscal policies to combat the financial crisis and the pandemic. Despite the advent of AI and robotics, economic output is likely to grow at rates below levels enjoyed in the past century. Further, despite higher-than-historical profit margins for several reasons, margins are unlikely to return to 2021’s record 13.3% and if inflation proves durable are likely to recede from today’s 11.8%. In a nutshell, the price is not right. Come on down!

We believed stocks were at a secular peak in March 2000, at least in the capitalization-weighted S&P 500 that grew to be dominated by several incredibly overvalued technology, media, telecommunications and dot-com companies. We were correct. The index spent much of the next 15 years underwater and to this day its returns are way below the long-run return from stocks and way, way below expectations of the day. At the same time, we also believed in March 2000 that despite the S&P perched at a secular peak, there were a growing number of genuine bargains that would allow an intelligently-invested portfolio to outperform the index over the coming decades. We were also correct.

Some shared our March 2000 sentiment, but they were few. Those who did were badly scarred value-oriented investors, many losing clients and investors to the siren-call of internet riches. The S&P 500 compounded with dividends at nearly 20% from its prior secular low in August 1982. The price alone of the index rose nearly 15x, from 102 to 1,527. During the final ascent, tech stocks displaced what had been overvalued blue chips in 1998, and the world clamored for everything new and shiny. The Nasdaq 100 exploded, surging 102% in 1999 alone. We managed a relatively underwhelming 29% return that year, our first as a firm. Using the rear-view mirror as a guide, both individual investors and sophisticated professional investors expected 16% to 20% annual long-term returns when polled in 1999 and early 2000. They got 7.7% for the next quarter century.

We created the first Semper Augustus Intrinsic Value Report on March 31, 2000. If you didn't own tech, you were out of touch, so it was imperative to demonstrate the degree to which the tech-heavy S&P 500 was dangerously overvalued while the Semper portfolio was decidedly not. Ours was valued at 15.6x to earnings, a 6.4% earnings yield. The report measured the portfolio at 84% of intrinsic value, giving it 19% upside over some period. By contrast the S&P traded at nearly 40x and a miniscule 2.5% earnings yield. Semper pegged intrinsic value for the index at \$590, 61% below the index's March 31 closing price of \$1,499.

Chad queried at the time, "Chris, a few of our clients already think we're crazy for not owning tech. Shouldn't you just say the market is really overvalued? Do you think it's necessary to say it needs to fall 61%?" As fortune would have it, the number proved reliably correct.

The Intrinsic Value Report suggested three possible outcomes: (1) a quick, painful decline to fair value; (2) painfully, not making any money for a long, long time; or (3) some painful combination of the first two. The operative word in all three scenarios was pain. Clubber Lang couldn't have said it any better.

The index investor suffered with all three outcomes. By October 2002 the S&P had dropped in price by nearly half, to \$777. That smarted. The Bernanke Fed did what modern central banks do and eased, sending the index back to its previous secular peak by 2007. Technology investors, badly burned by a nearly 80% shellacking in the Nasdaq, found real estate as "an asset that never goes down, at least nationally." Once bitten, twice shy the saying goes. Unfortunately, real estate *could* decline nationally. Nine years had passed since we postulated the S&P's value at \$590 in March 2000. Considering that the economy and profits grew over those nine years, when the S&P reached \$666 in March 2009 it made the original \$590 estimate look downright conservative.

The Intrinsic Value Report has proven a valuable tool for approximating absolute and relative valuations. It couldn't have been more useful when we first ran it to help keep expectations rational and to keep some from chasing "certain" quick riches. From March 31, 2000, the S&P produced a 7.7% annual return through 2024, the triple whammy. Considering we are again back to levels consistent with secular peaks, most of the past quarter century saw the cumulative index return below an annualized 7.7%. The index would remain below its 2000 peak until 2013, thirteen years later. The first decade of the 21st century saw a negative total return.

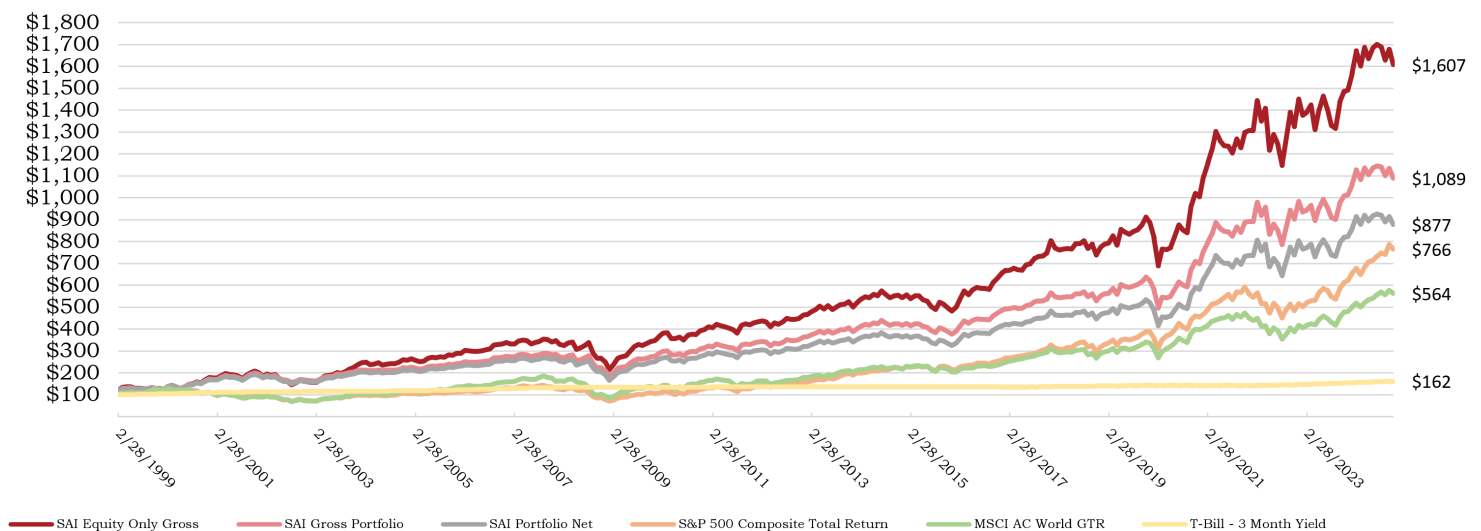
Semper and the S&P -- The Power of Compound Interest

Launching Semper a year in advance of the most extreme secular peak in U.S. stock market history may sound like an awful time to do so, something akin to picking up pennies in front of a steamroller. To the contrary, it was a great time if you have a stock market on one hand and a market of stocks on the other. Like today, while the capitalization-weighted U.S. stock market is extremely concentrated in a group of expensive companies, there were undervalued gems to be had in the late 1990s and early 2000. Those patient enough to not react by chasing the bubble fared far better over the subsequent quarter century. Our

experience couldn't have been better. Parallels today to the stock market and market of stocks we navigated then are uncanny.

How did the index investor fare from a bubble peak? While the S&P 500 earned 7.7% annually from the running of our first Intrinsic Value Report on March 31, 2000, it earned 8.2% annually from our inception on February 28, 1999. I had to do a double take when seeing this number, but 8.2% compounded to the tune of 666% cumulatively from our inception date through 2024. Surely, it's just a coincidence that the market low for the quarter century was \$666 in 2009. The devil is in the details of compound interest.

The Semper experience over the past 25 years was fortunately more pleasant. At 11.4% per year on average, each \$1 million invested in our stocks grew by 1,507.4% to \$16.1 million. Growing demonically less, by 666%, each \$1 million in the S&P 500 grew to \$7.7 million.



For much of the past quarter century, bonds outperformed the S&P 500, in part because the index spent 11 years earning next to nothing but also thanks to higher initial bond yields and falling interest rates, which pushed bond prices higher. Cumulatively, however, bonds rarely beat stocks over enough years. Indeed, intermediate-duration U.S. government securities earned 134.5% or 3.33% annually. That's growing \$1 million to \$2.3 million.

The Opportunity Cost of Holding Cash

Echoing Ben Graham's sentiment regarding holding cash from earlier in this section, cash becomes a toxic asset if held for too long. Until the wizards at the Federal Reserve and their foreign central bank cousins elected to suppress interest rates beginning with the dot-com bubble bursting through the Global Financial Crisis and the pandemic, U.S. Treasury bill yields approximated the inflation rate, meaning your purchasing power stood still. You earned the inflation rate, before taxes. Over the past two decades yields wallowed below inflation. Either way, cash is nearly always a lousy long-term or permanent investment, despite reasons mandating or dictating its ownership.

U.S. Treasury bills cumulatively earned 63.2% over the last 26 years, 1.9% annually. The consumer price index gobbled up 2.6% of annual purchasing power. In nominal terms, \$1 million at 1.9% grew to \$1.63

million. The “investor” in bills needed \$1.93 million to maintain purchasing power, again, before tax. A not insignificant proportion of cash across some of Semper’s client portfolios shaves the annualized return by 1.7% down to 9.7%, which doesn’t sound like much of a drag, but over 26 years only grows the original \$1 million to \$10.9 million, not to the \$16.1 million earned on our stocks with no cash. Incidentally, the penalty for holding a similar portion in cash and the balance in the S&P 500 wasn’t as severe. Why? The drag on earning only 1.9% in T-bills while the index earned 8.2% is way less of a drag when earning the bill return against Semper’s 11.4% return from our stocks. There is a **HUGE** lesson here about the demerits of owning cash as a long-term allocation in an investment portfolio. Management fees similarly are a reduction from gross returns but significantly less of a drag than having cash reserves at a high enough level over time. There are myriad reasons for holding cash reserves and in most cases the allocation is warranted based on the investor’s situation. We’ve just seen however that permanently holding cash because it’s a “safe” investment when it’s not required to meet spending needs or by regulation (think insurance reserves) is a poor choice.

The table below illustrates what can be the severe opportunity cost of holding cash reserves as an allocation of long-term investment capital for too long. Compare returns on stocks growing linearly at 10% per year versus cash earning the historic 3% inflation rate in one case and nothing in the other. Rates in the U.S. were very low for much of the past 15 years and for decades in Japan. Earning 10% in stocks linearly is not how it works – intervals are more erratic – but the point is the impact of compounding over even short and intermediate periods among assets producing different returns. It doesn’t take many years of sacrificing the higher return earned by owning businesses before the necessary drawdown to breakeven requires losses on par with the most severe routs in stock market history.

Growth of \$100 in Stocks and Cash – Required Decline to Breakeven

Year	Stocks at 10%	Cash at 3%	Required Decline	Cash at 0%	Required Decline
1	\$110.00	\$103.00	-6.4%	\$100.00	-9.1%
2	121.00	106.09	-12.3%	100.00	-17.4%
3	133.10	109.27	-17.9%	100.00	-24.9%
4	146.41	112.55	-23.1%	100.00	-31.7%
5	161.05	115.93	-28.0%	100.00	-37.9%
6	177.16	119.41	-32.6%	100.00	-43.6%
7	194.87	122.99	-36.9%	100.00	-48.7%
8	214.36	126.68	-40.9%	100.00	-53.3%
9	235.79	130.48	-44.7%	100.00	-57.6%
10	259.37	134.39	-48.2%	100.00	-61.4%

At a 10% annual return over ten years, each \$100 in stocks compounds to \$259.37. Meanwhile, cash held in reserve earning 3%, “dry powder for a better buying opportunity” as I’ve heard a gazillion times, grows to \$134.39. Presuming the dexterity required to go all in at the requisite low, to catch up requires buying after 10 years at the bottom of a 48.2% dip. As you will see in the next section, there is only ONE bear market in U.S. stock market history in which on a total return basis the S&P 500 reached a 48.2% loss. The 2007-2009 Global Financial Crisis? Nope. The Dot-com bust? Nope. The 1973-1974 Nifty Fifty bear market? Nope. You will find that only from 1929’s stock market crash to the depths of the Great Depression three years later did stocks decline more than 48.2% -- and that’s measured from peak to

trough. Who goes to cash at the top tick of the market and catches the ultimate low? One fellow comes to mind who darn near did it, but even Semper's first client was early on raising cash and watched the market nearly double before crashing 89% in price by 1932.

As you think through this math, bear in mind that many stocks pay dividends. When calculating the damage done by bears, don't neglect the dividends earned, which are often in excess of the yield earned on cash.

A familiar note here on the nuances of portfolio management. Investors come in two varieties when it comes to portfolio implementation, each with different wants and needs. Some (institutions largely) prefer to be fully invested quickly, both at the outset of a new investment relationship and with ongoing deposits. To the extent they have cash, it's held among their allocations to multiple investment managers. At our portfolio level we don't have cash and frankly don't want it. Other clients prefer a more methodical cadence for deploying capital, only buying individual positions when fundamentally undervalued. Here we can be fully invested very quickly or more methodically.

Mr. Market will spend long periods offering up little in the way of opportunity, and then appear all of a sudden with bargain after bargain. It's times of duress and falling prices that present terrific opportunity. You don't know when they're coming, but when they do you take advantage. That said, once we are more fully invested, we prefer to remain so. Once invested, when we are buying a position or adding to a position, we are also selling what we believe to be more fully valued to raise the needed cash. It's the cycle of buy low, sell high that's largely treated us well over the years.

Expectations and Outcome

Expected returns couple the earnings yield with the purchase of stocks at a discount to intrinsic value. Accretion of the discount over some period plus the earnings yield equals the expected return. The process seems to stand the test of time. Since running the Intrinsic Value Report for the first time in 2000, the portfolio earnings yield averaged 8.1%, or 12.4x earnings. At an average 75 cents on the dollar of intrinsic value over the years, the presumed 33% accretion to value earned over a period of years should add perhaps 2% to 3% to the earnings yield. A 10.1% to 11.1% expected return range compared to an 11.4% average actual return over 26 years is in the ballpark. We presume that returns were 1% to 2% higher than expected can be attributed to our active management approach (offset by the inevitable mistakes) and long holding periods where returns trend to the portfolio return on equity. Expectations match results, which is what we'd hope for over time. As for expecting history to repeat and actual results to trump expectations, modest premium returns realized over the full period may simply reflect much stronger than expected returns on average in recent years.

The purpose of the table below is to compare the beginning earnings yield every year over the past 26 years against the subsequent long-term return realized from that point. A higher initial earnings yield should forecast a higher subsequent compound return. The hypothesis tends to bear out. For example, a 10% initial earnings yield at the outset of 2009 (deep in the Financial Crisis) resulted in an 11.8% return from that point through the end of 2024. Periods beginning with lower earnings yields generally corresponded with lower subsequent cumulative returns. At the outset of 2007 a low (by our history) 7% earnings yield resulted in only a 9.2% compound annual return. The shorter time series toward the lower portion of the table are impacted by near-term returns, which can be all over the map. In other words, don't expect a return over the next one-year interval to match expectation. The voting machine wins in the short term.

Year	SAI Equities Only	CAGR from 2024	CAGR from 1999	Beginning Earnings Yield	Beginning P/E Ratio
1999	29.1%	11.4%	29.1%	7.7%	13.0
2000	30.7%	10.6%	33.1%	6.4%	15.6
2001	23.1%	9.8%	29.4%	6.6%	15.2
2002	-22.0%	9.3%	13.4%	7.4%	13.5
2003	38.2%	11.0%	18.2%	7.9%	12.7
2004	16.3%	9.8%	17.9%	7.7%	13.0
2005	7.4%	9.5%	16.3%	8.2%	12.2
2006	18.4%	9.6%	16.5%	7.3%	13.7
2007	3.1%	9.2%	14.9%	7.0%	14.3
2008	-21.6%	9.5%	10.5%	7.5%	13.3
2009	27.9%	11.8%	12.0%	10.0%	10.0
2010	14.4%	10.9%	12.2%	8.4%	11.9
2011	7.1%	10.6%	11.8%	8.3%	12.0
2012	6.8%	10.9%	11.5%	8.7%	11.5
2013	17.3%	11.2%	11.8%	8.9%	11.2
2014	5.2%	10.7%	11.4%	8.0%	12.5
2015	-10.3%	11.2%	10.0%	7.7%	13.0
2016	27.7%	13.9%	10.9%	8.1%	12.3
2017	18.0%	12.3%	11.3%	7.6%	13.2
2018	-1.4%	11.5%	10.6%	7.2%	13.9
2019	23.6%	13.9%	11.2%	8.2%	12.2
2020	11.9%	12.0%	11.2%	7.4%	13.5
2021	27.3%	12.0%	11.9%	8.0%	12.5
2022	2.1%	7.4%	11.5%	9.3%	10.7
2023	12.1%	10.1%	11.5%	10.5%	9.5
2024	8.2%	8.2%	11.4%	9.7%	10.3

Inception Date 2/28/1999

At the outset of 2025, the portfolio's 10.3x P/E matches its level of a year ago and the two are lower than at the outset of all but two years over our history. The multiple suggests we earn our 9.7% earnings yield and some bonus level of accretion as the undervalued portfolio holdings migrate upward to their respective intrinsic values. With a historically high initial earnings yield, and most of our profits retained by companies that are largely capable of reinvesting in their businesses at the portfolio 16.6% return on equity, we really like how the table is set. We'll make mistakes for sure, but as we scroll through the roster of our companies and the folks running them, we like what we own. It's a good thing because we and our companies will face extraordinarily difficult, gale-force headwinds in the years to come.

Secular peaks match euphoria, complacency, confidence and greed. Troughs couple despair, self-doubt, diffidence and fear. "I won't get fooled again" is rarely heard at a top. It's also easier to go bankrupt on the downside from a peak than the upswing from a low. Read on about three ways to go bust and where we are in the cycle.

THREE WAYS YOU CAN GO BROKE

“In the beginning of a stock market boom it is ever the ‘dear public,’ the fleecy lambs, the most guileless victims, who make the most money. They really do not know when to stop winning, and so in the end they lose profit and principal.” – Edwin Lefèvre

“In a speculative market, what counts is imagination and not analysis.” – Benjamin Graham

“I didn’t get rich by buying stocks at a high price-earnings multiple in the midst of crazy speculative booms, and I’m not going to change.” – Charlie Munger, 2021 Daily Journal Corp. Annual Meeting of Shareholders



Walter Reuther, president of the United Auto Workers from 1946 until his untimely death in 1970, ingeniously created a test for identifying communists in the McCarthy era: “If it looks like a duck, walks like a duck and quacks like a duck, then it just may be a duck.” It was the combination of the purging of communists from the union and the widespread adoption of his duck test that fostered Reuther’s rise to labor and civil rights magnate. However, this union bossman, a masculine term for sure, is never believed to have shared—publicly at least—his affinity for 19th century poetry, from which he surely would have encountered James Whitcomb Riley, who penned, “When I see a bird that walks like a duck and swims like a duck and quacks like a duck, I call that bird a duck.”

Lest we run afowl too soon for lack of relevance to an investment letter, the subject at hand is neither ducks nor unions, nor mercifully the failure to attribute, but rather the test of identifying secular peaks not in arrears but in real time.

Five decades beyond the introduction of Reuther’s duck test, then Federal Reserve Governor Ben Bernanke hypothesized whether the duck test could be prospectively applied not to spotting communists, or ducks, but asset-price bubbles. In remarks before the New York Chapter of the National Association for Business Economists on October 15, 2002, the Ph.D. econometrician argued, concluded really, in the negative. Whether it looks like a bubble, walks like a bubble and quacks like a bubble, the only way to identify a bubble is in arrears. That is, after the popping. A daffy conclusion.

Semper Augustus launched at the close of 1998 and described the market as a bubble in advance of the coming bust. More than two decades later we endeavored to defy The Great Bernanke and characterize year-end 2021 as a secular peak in our 2021 annual letter, *Brown Sugar*, a top we then believed rivaled 2007, 2000, 1966, and 1929. We see lots of ducks here in Missouri and 2021 was quacking secular peak. The call looked prescient throughout 2022 as the S&P 500 and Nasdaq lost 18.1% and 32.5% respectively. Even bond prices tanked as interest rates ascended. A recovery in 2023 sent the bellwether S&P 500 from 3,840 to 4,770, nearly matching 2021’s 4,766 close. With dividends the index returned 3.4% cumulatively for the two years.

Most recently, the venerable index gained 25.0% in 2024 following the previous year’s 26.3% recovery rally. The index has now earned 29.3% cumulatively over the three years ended 2024, 8.9% per year on average.

The Nasdaq likewise recovered 2022’s 32.5% decline over the past two years. The tech-heavy index returned 44.6% in 2023 and 29.6% in 2024. 2023’s blistering performance merely pulled the index roughly to a cumulative 2.4% loss over the two years ended December 2023). Cumulatively, the Nasdaq returned 26.4% over the three years through 2024, 8.1% per annum.

The S&P 500 ended 2024 at 5882, 23.4% above 2021's close. Surely 2021 can no longer be called a secular peak, right? As we'll see in the familiar table below, it's most likely a draw, and ties go to both the runner and to the earlier of matching fundamentals spanning two proximate time series. Safe! Apologies to Euro readers for the U.S.-centric humor.

Why the infatuation of worrying about or debating whether the stock market happens to be at a secular peak? With history as a guide, those invested in the assets comprising a secular peak tend to lose money as a secular peak devolves to the next secular trough. Some go broke. If 2021 was a secular peak and you missed the opportunity to position capital accordingly, perhaps the extra-innings gods are giving you an extra plate appearance at swinging for redemption with a ghost runner on second. Crickets from the Euro crowd.

Unlike the Fed, we happen to think bubbles can indeed be spotted in advance of their bursting. Yes, the markets can remain irrational longer than some can remain solvent. But sitting out the last dance despite the music still playing is far from irrational. Not dancing in 1928 or 1965 or 1999 looked out of touch to most. Until it didn't. And although there's no crying in baseball, even Warren Buffett wrote in February 1998 that "Just standing there, day after day, with my bat on my shoulder is not my idea of fun."

A secular stock market peak can be characterized as the high point immediately preceding either a durably long loss of value or extremely subpar returns. The annual letter often references the holy grail of stock market returns as the Ibbotson series from 1926 concluding stocks earn about 10.5% annually, on average, over the very long haul. Outlier intervals occur when a performance series initiates (or worse – is experienced) from levels close to secular peaks to both a subsequent trough and over the long haul. Conversely, outsized returns are enjoyed to the next peak and likewise to the finish line when investing at or around secular lows. Subpar returns follow peaks, and glorious returns are earned from the ashes of troughs.

The S&P 500 returned 16.6% on average annually, including dividends, for the decade to year-end 2021. Over a similar decade-long run to 1999, the index earned a total return of 18.2% per annum and then earned a negative total return over the subsequent decade. The Semper 2022 letter postulated that over the coming decade the S&P 500 would likewise produce returns well below the Ibbotson standard, somewhere between a loss and mid-single-digit returns at best. A repeat of the average 16.6% earned over the prior decade was but a pipe dream. Following the 2022 washout, the S&P rallied to post an 8.9% annual return over the first three years following 2021. Not bad, unless fundamentals are back to 2021 levels. They are, and the prospects for the S&P are equally as dim as three years ago.

Dancing Peak to Peak

Perhaps the best way to illustrate why owning the broad stock market at or near a secular peak can be hazardous to your wealth, and conversely why leaning in at or around troughs can make you rich (or richer), is by observing past returns for the S&P 500 from each successive peak to trough and trough to peak. Returns are unfortunately calculated using monthly returns, thus muting returns from full secular peak and trough prices. For instance, the price return alone is 101.4% from October 2002's 777 trough to the 1,565 October peak. We don't have total returns with proper dividend attribution during the older intervals. If anybody has older total return data for the early periods and passes it along we'll update the table in a future letter.

S&P 500 Returns at Intervals from Peaks to Troughs and Troughs to Peaks

Peaks to Troughs to Peaks	Cumulative Return	Annualized Return
9/1929 Peak to 7/1932 Trough	-81.7%	-45.0%
7/1932 Trough to 3/1937 Peak	404.3%	41.4%
3/1937 Peak to 4/1942 Trough	-39.2%	-9.2%
4/1942 Trough to 2/1966 Peak	3,430%	16.2%
2/1966 Peak to 8/1982 Trough	131.0%	5.2%
8/1982 Trough to 3/2000 Peak	2,265%	19.5%
3/2000 Peak to 10/2002 Trough	-36.9%	-17.3%
10/2002 Trough to 10/2007 Peak	82.8%	12.6%
10/2007 Peak to 3/2009 Trough	-44.2%	-35.4%
3/2009 Trough to 12/2021 Peak	650.6%	16.9%
12/2021 Peak to 12/2022 "Low"	-18.1%	-18.1%
12/2022 "Low" to 12/2024 Peak	57.9%	25.7%

Total returns include dividends reinvested in the index

Source: *Semper Augustus*

“They” say you can’t time the market. I’m not entirely sure they are correct, with caveats. I don’t endorse the short-term buying and selling of the broad stock market based on technical analysis, economic forecasting or voodoo. That’s market timing and I don’t know anybody that got rich practicing what in modern times is called day trading. I know plenty of rich and poor people that trade, but they didn’t get rich that way. Some of the poor did. The discussion is on identifying extremes and acting accordingly.

Ben Graham suggested there are times when the stock market is fundamentally overvalued by established measures and that absent the ability to find individual securities opportunistically perhaps it can be best to sit aside. My message today is in reference to the stock market as in the capitalization-weighted S&P 500. The same logic would apply to Japan, circa 1989. There are times like 2000 and today that the U.S. large-cap, cap-weighted index investor with meaningful capital invested will suffer mightily, whether quickly or over a very long period. Either way, it pays to understand the impact on the compounding series when starting with a materially overvalued or undervalued price.

Focus on the annualized return for each interval in the table above. Suffice it to say that earning 16.2% annually from 1942, the low point in World War II, over the next 24 years to 1966 was far superior to the experience of the subsequent 16 ½ years. At 16.2%, each \$100 in 1942 grew to \$3,530, a 35.3x gain. Meanwhile, \$100 in 1966 grew only 5.2% annually to \$231 in 1982, a 2.31x gain before inflation; and after inflation you had less than the original \$100.

Each of the intervals in the table above, from peaks to troughs and subsequent troughs to peaks, cover differing lengths of time. 1966 to 1982 was 16 ½ years. Earning 131% cumulatively sounds great until factoring in time. To state the intuitively obvious, a 5.2% annual return from stocks over that duration is not good. And that’s *before* inflation. Earning 5.2% annualized, half of the Ibbotson number over more than a decade and a half, while the inflation rate exceeded the nominal return was the equivalent of lighting money on fire. The long-term investor lost money. Purchasing power is money. For a more recent and memorable example, cash in a bank account earning 0% over two decades when inflation is 2% is losing money.

The Very Long Term?

An equally illustrative demonstration of the advantage of buying low and not high is measurement of annual return and capital growth from each past peak or trough, all the way to the present for each time series. Think again of the impact of deviating from Ibbotson's 10.5% per-year long-run average. Owning stocks from 1929's peak earned the investor 9.7% annually. Not bad you say? Only 800 basis points under Ibbotson you say? Consider beginning the subsequent time series three years later in the depths of the Great Depression as our anchor client Mr. Smith did in 1932. Earning 12.0% annually trumps Ibbotson and trumps 1929's investor (or speculator to be real here). Ok great, 1.5% better than Ibbotson and 2.3% better than the speculator. What's the difference? Each \$100 invested in 1929 grew to \$677,458 while the value investor buying three years later turned each \$100 into \$3,694,299, essentially five times as much money earned over three fewer years. The difference roughly reflects the 81.7% decline from the first interval in the table.

[Our return series are measured using month-end data, not prices at each daily peak or low. The complete decline in the stock market was 89%. Using monthly data gets us close given long intervals of time. The returns and differences in compound wealth would be even more extreme using daily data.]

[Roger Ibbotson and Rex Sinquefeld; *Stocks, Bonds, Bills and Inflation* selected calendar year 1926 as the starting point in calculating long-term returns on several asset classes. The S&P Composite was the 90 largest stocks until March 1957 when Standard & Poor's prospectively changed the index to the 500 largest companies. I've read multiple editions of the book and research papers and don't recall why December 31, 1926 was selected. The date makes sense as it was roughly halfway between 1920's secular low and the 1929 peak, thus returns were calculated from neither a peak nor a trough but presumably from an average valuation.]

S&P 500 Returns from Peaks to Troughs to 2024 – The Long Run

Peaks and Troughs to 2024	Cumulative Return	Annualized Return
12/1925 Ibbotson to 12/31/2024	1,856,128%	10.4%
9/1929 Peak to 12/31/2024	677,358%	9.7%
7/1932 Trough to 12/31/2024	3,694,199%	12.0%
3/1937 Peak to 12/31/2024	732,663%	10.7%
4/1942 Trough to 12/31/2024	1,204,261%	12.0%
2/1966 Peak to 12/31/2024	34,016%	10.4%
8/1982 Trough to 12/31/2024	14,670%	12.5%
3/2000 Peak to 12/31/2024	524.5%	7.7%
10/2002 Trough to 12/31/2024	889.2%	10.8%
10/2007 Peak to 12/31/2024	441.2%	10.3%
3/2009 Trough to 12/31/2024	870.4%	15.4%
12/2021 Peak to 12/31/2024	29.3%	8.9%
12/2022 "Low" to 12/31/2024	57.9%	25.7%

Total returns include dividends reinvested in the index

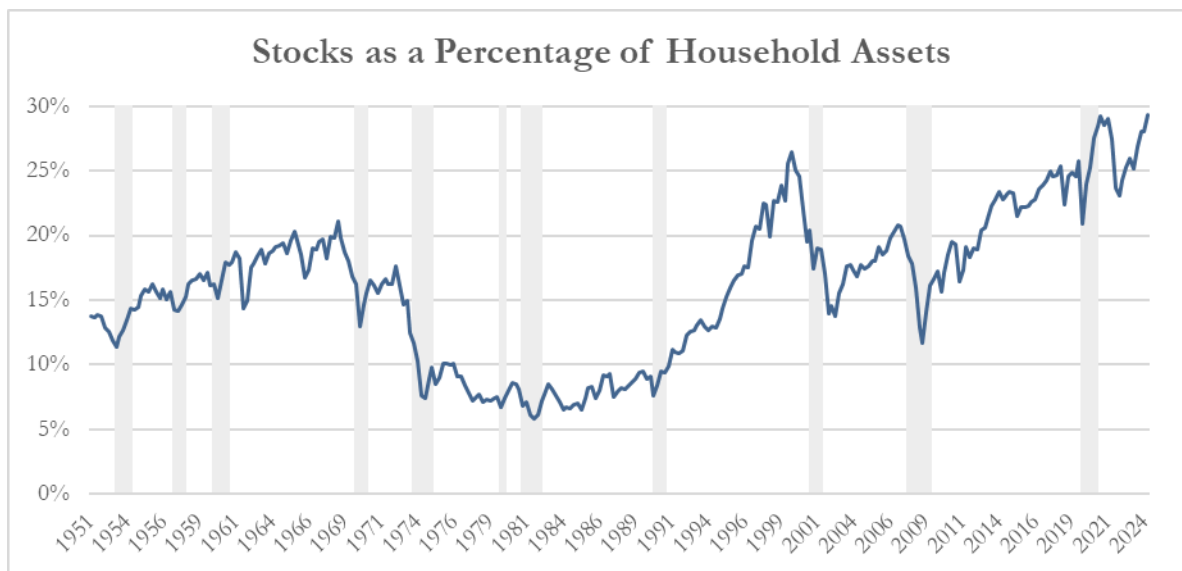
Source: *Semper Augustus*

Requoting a portion of Graham’s earlier passage from *The Intelligent Investor*,

It is far from certain that the typical investor should regularly hold off buying until low market levels appear, because this may involve a long wait, very likely the loss of income, and the possible missing of investment opportunities. On the whole it may be better for the investor to do his stock buying whenever he has money to put in stocks, except when the general market level is much higher than can be justified by well-established standards of value. If he wants to be shrewd he can look for the ever-present bargain opportunities in individual securities.

Investors often get it wrong at the worst possible time, all in at peaks and disgusted with the casino at lows. Over enough decades the truly long-term investor may indeed claw back and earn 10.5%. The proof is in the table through 2024. Except for one thing. If 2024 is a secular peak (or if the peak was in 2021 the point is the same) the end point of the compound return series may indeed get you to the Ibbotson 10.5%, but this is a peak-to-peak calculation. Run the return series from past peaks to 2009 or 2022, or even to some point in time with average fundamental valuations, and the returns are lower.

Headed into 2025, “they” are all in for sure, with seven magnificent chip stacks shoved to the center of the table. The chart below demonstrates household stock ownership over time. Secular peaks happen to correlate with peak allocations to stocks.



Source: Federal Reserve of St. Louis; Households and Nonprofit Organizations

Twin Peaks

Thanks to back-to-back mid-20% returns in 2023 and 2024, the S&P 500 returned 8.9% annually with dividends over the three-year period just ended. Given how 2022 unfolded with an 18.1% decline, I’m frankly surprised the market (that’s the capitalization-weighted index) is fundamentally back to levels matching or even slightly exceeding by some measures, those at our defined 2021 secular peak. I encourage you to spend some time with this table if you are new to the letter. The rightmost column is for data at year-end 2024. 2022 remains, as that was essentially the “low” following the 2021 high. It’s not shaded green like the secular lows in the table for what should be obvious reasons on inspection of the data.

A Century of Secular Peaks and Troughs – Back in Black

	9/29 Peak	7/32 Low	3/37 Peak	4/42 Low	2/66 Peak	8/82 Low	3/00 Peak	10/02 Low	10/07 Peak	3/09 Low	12/21 Peak	12/22 No	12/24 Peak?
S&P 500	34	4	20	7	94	102*	1527	777	1565	666	4793	3840	5882
After-Tax Profit Margin	8.9%	-3.2%	6.4%	6.6%	6.7%	4.0%	7.4%	5.8%	9.4%	-0.1%	13.3%	11.5%	11.8%
Price to Op Earnings (TTM)	26x	NMF	8x	7x	18x	8x	33x	19x	22x	NMF	23x	20x	25x
Price to Earnings (CAPE)	30x	4x	23x	9x	25x	7x	44x	23x	28x	15x	38x	29x	38x
Price to Sales	2.31x	0.48x	0.51x	0.46x	1.20x	0.32x	2.13x	1.11x	1.57x	.666	3.06x	2.19x	2.98x
Price to Book Value	3.0x	0.3x	2.2x	0.8x	2.4x	0.9x	5.2x	2.3x	3.0x	1.5x	4.7x	3.8x	5.0x
Dividend Yield	3.0%	17.5%	3.7%	8.7%	2.9%	6.1%	1.0%	2.0%	1.7%	4.0%	1.3%	1.8%	1.27%
Market Cap All Stocks	93.3B	15.3B	66.2B	32.4B	624B	1.1T	14.0T	7.0T	15.9T	7.0T	48.8T	38.9T	59.0T
GDP	103.7B	58.8B	91.9B	162B	789B	3.3T	9.9T	11.0T	14.6T	14.4T	24.8T	26.7T	29.7T
Market Cap to GDP	90%	26%	72%	20%	79%	33%	141%	64%	109%	49%	197%	147%	199%
Exports / GDP	5.7%	3.3%	4.3%	2.6%	5.0%	8.5%	10.7%	9.1%	11.5%	10.9%	10.8%	11.6%	11.0%
Imports / GDP	5.3%	3.2%	4.3%	2.8%	4.6%	9.1%	14.4%	13.2%	16.5%	13.8%	14.4%	15.3%	14.2%
Net Exports / GDP	0.4%	0.1%	0.0%	-0.2%	0.4%	-0.6%	-3.7%	-4.1%	-5.0%	-2.9%	-3.6%	-3.7%	-3.2%
Total Credit Market Debt	175B	150B	159B	227B	1.12T	5.2T	26.7T	32.2T	51.2T	54.6T	89.2T	94.0T	102.9T
Total Credit Mkt Debt / GDP	169%	255%	173%	140%	142%	158%	270%	293%	352%	380%	360%	357%	346%
U.S. Government Bond Yield	3.4%	3.5%	2.6%	1.9%	4.6%	14.6%	5.9%	4.7%	4.9%	3.5%	1.9%	4.0%	4.8%
U.S. Discount Rate	6.0%	2.5%	1.5%	1.0%	4.5%	10.75%	5.5%	1.25%	5.0%	0.75%	0.25%	4.5%	4.5%
Inflation (CPI)	0.6%	-9.9%	3.6%	10.9%	3.7%	11.0%	3.4%	1.6%	2.9%	-0.4%	7.0%	6.5%	2.7%
Unemployment Rate	2.3%	24.9%	11.7%	4.9%	4.2%	10.8%	3.9%	6.0%	5.0%	9.9%	3.9%	3.5%	4.2%

*A peak price can approximate the subsequent trough price following 17 years, especially when marked by high inflation.

Source: *Semper Augustus*, Federal Reserve Bank of St. Louis, Bureau of Economic Analysis, Bureau of Labor Statistics, Standard & Poor's, U.S. Treasury

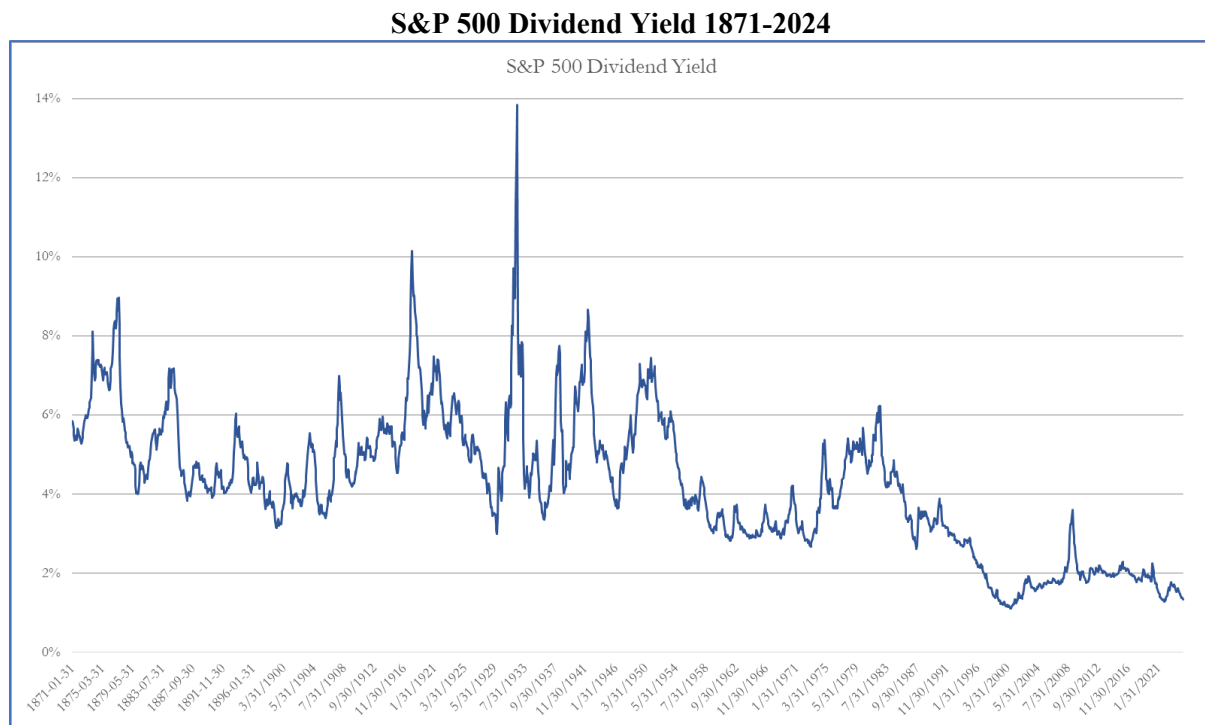
Observers of financial history might not choose to describe 1966 as a secular peak, but 1968 or 1972 instead, since both immediately preceded nasty bear markets. In both latter cases, stocks had fully recovered their price declines from sharp selloffs like the one in 2022 and with dividends had produced gains from 1966. However, inflation back then resembled that of the recent period. While the S&P 500 earned 29.3% cumulatively over the last three years including dividends, 8.9% on average, inflation eroded 13.1% of purchasing power, averaging 4.2% per year. In other words, inflation gobbled up nearly half the return from 2021 to 2024. By comparison, over the 99 years of the Ibbotson series spanning year-end 1925 to 2024, inflation cumulatively destroyed 1,692% of value, 3% per year. It now takes \$17.93 to purchase what cost \$1.00 at the outset of 1926. What's the Federal Reserve's mandate? If the long-run Ibbotson return is 10.5% per year, a 3% shave from inflation reduces the real return by 28.6% or from 10.5% nominal to 7.5% real over those 99 years. And the market's annual return just got whacked nearly in half over the last three years, from 8.9% nominal to 4.7% real.

Essentially the fundamental valuation difference between 2021 and 2024 is semantics. You say potayto, I say potahto, tomayto, tomahto. Let's call the whole thing off. Most fundamental stock market valuation yardsticks in the table are mirror images for the twin peaks. Price measured against trailing 10-year

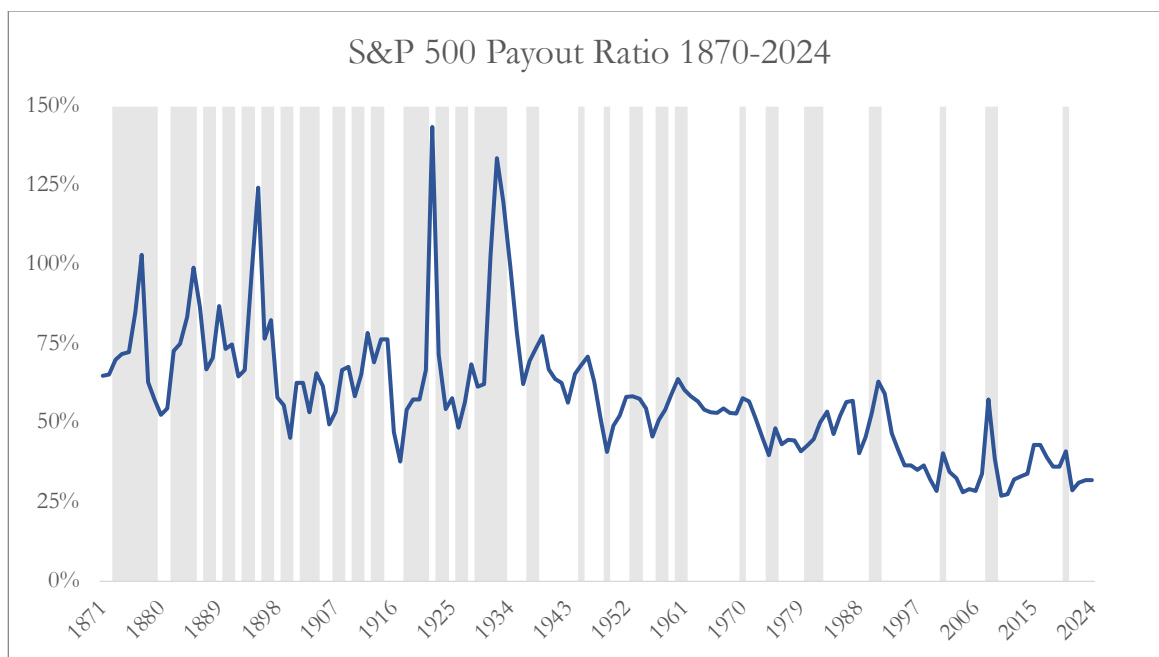
earnings (CAPE) precisely match at 38x. Market cap to GDP at 199% in 2024 is essentially where it perched at 197% three years ago and is now at a new record high.

Price to book value in 2024 totals 5.0x, above 2021's 4.7x and only trailing the tech-bubble peak in 2000 at 5.2x. Write-offs and write-downs of assets and equity translate to a higher price to book value and to higher returns on equity, again holding multiples to earnings constant for the latter. Share repurchases made at premiums to book value also reduce book value and book value on a per-share basis. The larger the premium, the more book value is eroded. The combination of write-offs and repurchases have rendered book value largely meaningless for many companies and overstate returns on equity, often dramatically.

Today's 1.27% dividend yield is slightly lower than in 2021 and plumbs near the all-time low 1.0% yield recorded in 2000. Know that the low yield is not a function of a paltry payout of dividends as a percentage of earnings. No. Rather, dividend payout rates have consistently averaged about one-third of earnings for the last five decades. The low yield is a byproduct of high prices.



To illustrate dividend yields, presume two companies, A and B, both earning \$3 and paying \$1 of the \$3 in dividends. Both have 33% payout rates. If company A trades for \$30 per share, it has a 10x price-to-earnings ratio and a 3.33% dividend yield. Its earnings yield happens to be simply the inverse of the P/E so 10%. If company B, meanwhile, trades for \$100 per share, it sports a 33.3x P/E multiple (3.0% earnings yield) and a 1.0% dividend yield. A and B can be the same company as well, only at different points in time. If a company earning \$3 and paying \$1 in dividends suffers a 70% share price decline from \$100 to \$30 for some reason, its dividend yield will skyrocket from 1.0% to 3.33% (assuming no change in its \$3 in earnings). The board of directors did not flip from Grinchian™ to Clausian™ overnight – the stock price merely went down. Anytime you read about a company's "generous" dividend yield, always double check the payout rate and the valuation. A stock price rising faster than earnings and dividends results in multiple expansion and a reduction in yields.



Source: (1870-1959) Robert Shiller; (1960-1987) NYU; (1988-2024) Semper Augustus, Standard & Poor's

Comparison of certain fundamental measures of value over the past century is not necessarily on an apples-to-apples basis. Price-to-sales and market-cap-to-GDP ratios both require brief discussion. Warren Buffett discussed profit margins in a November 22, 1999, *Fortune* article, *Mr. Buffett on the Stock Market*, as most likely rangebound between 4.0% and 6.5%. The article was a distillation of four speeches given by Mr. Buffett throughout 1999. The point of the article was to suggest that investors were overly optimistic about future stock market returns. Without calling a secular peak, he was calling a secular peak. Mr. Buffett knows his ducks and he was correct. 2000 marked the peak and investors earned subsequent returns of a mere fraction of their collective expectations. The S&P 500 since 1999 produced a 7.7% total return. Nearly the entire period was spent with a lower return than that, and only for the surge to 2021 (or 2024) did returns rise to 7.7%. Roger Ibbotson would turn over in his grave, were it not for the fact that he hasn't yet flown the coop – happy as a lark to be alive and chirping at age 81.

While he was correct on the dim prospects for stocks (at least for the S&P 500), Mr. Buffett was completely wrong regarding profit margins, however.

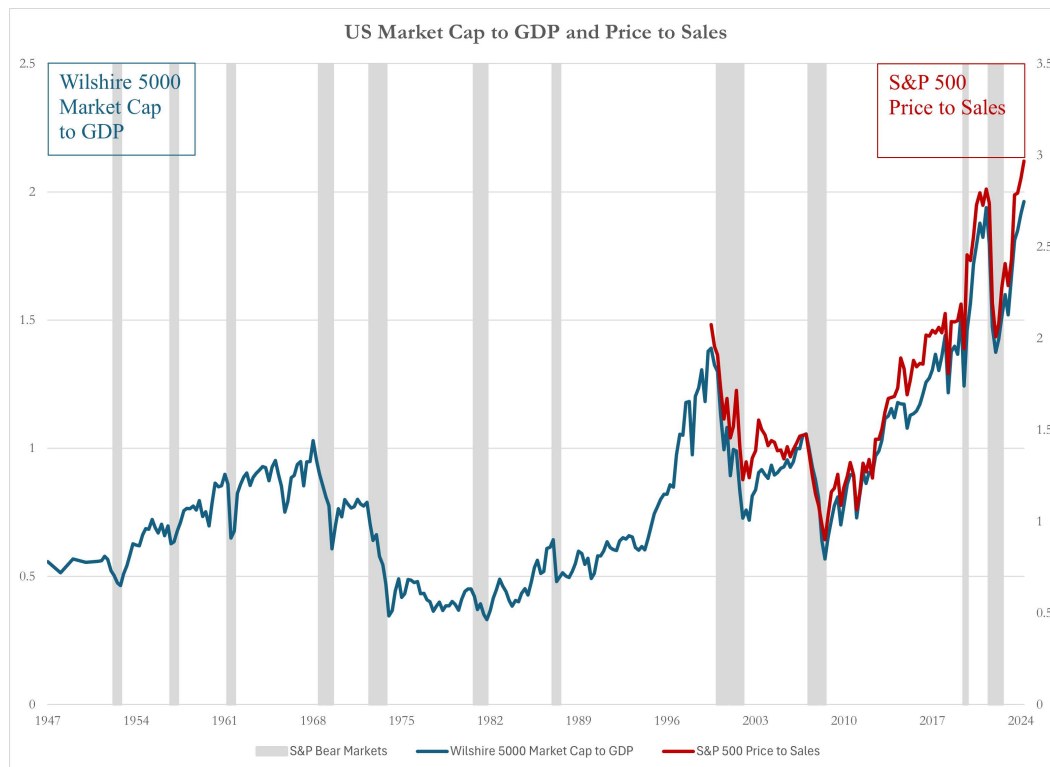
One variable in particular, profit margins, drove both price-to-sales and market-cap-to-GDP measures logically higher over time. After-tax profit margins reached 7.4% for the S&P 500 in 2000, a full percent above the top of the range suggested by Buffett. He proved correct in his warning about equity valuations when the S&P 500 plummeted from 1,527 in March 2000 to 777 in October 2002, a 49% price decline (the Nasdaq shed 80%). Margins indeed mean reverted, shrinking from the seven-decade peak at 7.4% in 2000 to 5.8% by late 2002, a 23% decline. To that point he was correct. Investors don't like falling profits, so they sent prices down at a faster clip. You get to a halving in prices by also hammering the P/E multiple from 33x to 19x, a 42% decline. Revenue growth offset a little of the carnage so despite margins and multiples down 22% and 42% respectively, prices merely halved.

Despite being an acquaintance of Bill Gates at Microsoft, Warren didn't see the coming dominance of a handful of capital-lite software and information-technology behemoths and their very high profit margins relative to historical norms. I don't think he contemplated the degree to which interest rates would decline, lowering interest expense despite rising corporate financial leverage. Index profit margins would rise from 2002's 5.8% low to a 13.3% peak in 2021, roughly double the upper bound hypothesized in the

1999 Fortune article. It was more so the decline from a record 33x multiple to earnings that led to miserable returns from 2000's secular peak, price mattering after all. Price was the problem, not then-high margins. Price matters. A too-high price can prove lethal, even if interest rates fall.

A rising profit margin will necessarily translate to a rising market cap to GDP and similarly to a rising price to sales at an equal price to earnings.

The market-cap-to-GDP measure is now popularly known as the Buffett Indicator. Today's 198.6% (let's call it 2x) surpasses 2021's 197% record. Try to imagine how unsettled you'd be if your child's healthy body temperature rose from its normal of 98.6 degrees Fahrenheit to an unhealthy peak of 198.6 degrees. Not normal! The current level can't be compared to the 90% of GDP seen at the 1929 peak or 79% in 1966. In addition to rising profit margins over the past two decades to never-before-seen levels, several other variables likewise served to drive the value of the U.S. stock market higher and higher relative to the size of the economy. First, a century ago most business was not conducted by publicly traded companies. Business was largely private enterprise – that's mom, pop and farmers. While the industrial revolution got rolling in the U.S. around 1870, much of the population remained on farms in the 1920s. The value of stocks in aggregate, therefore, was smaller than their share of the economy today.



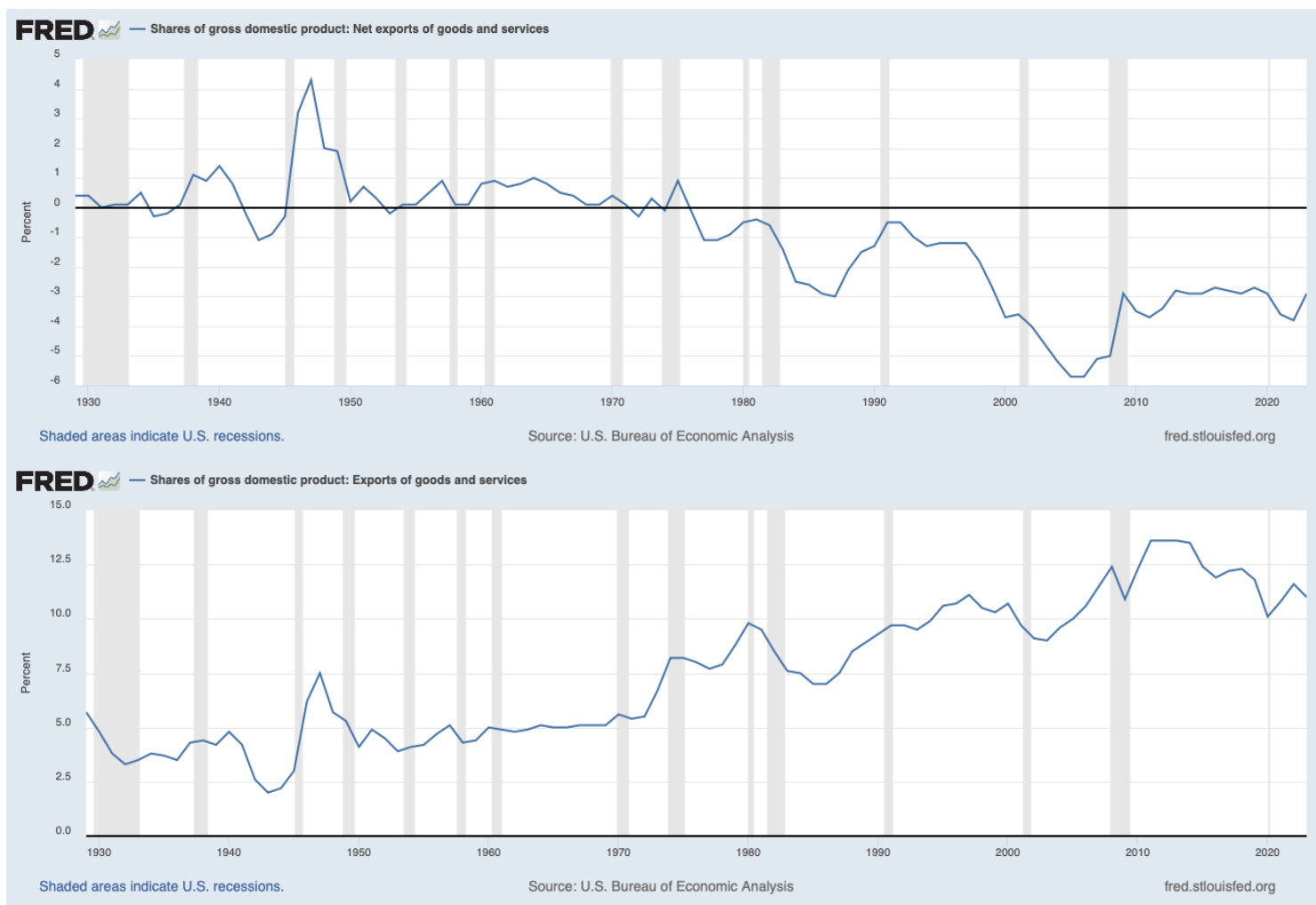
Source: FRED, S&P, Long-term Trends, Semper Augustus

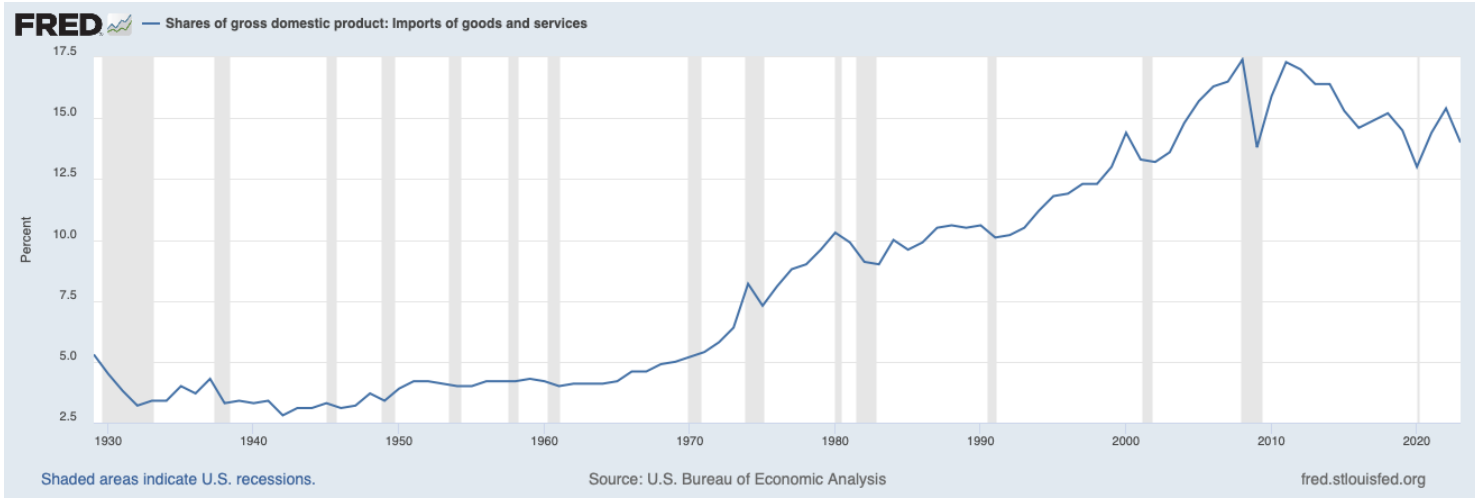
Second, the economy of the 1920s was largely domestic. Trade was important but represented a much smaller share of U.S. and global GDP. Our country is a net importer today, with imports comprising 14.2% of GDP while exports are 11.0%. We thus run a 3.2% of GDP trade deficit. In 1929, even with industrialization well under way, the U.S. ran a 0.4% trade surplus and on a much smaller scale relative to the present. Exports were 5.7% of 1929 GDP while imports totaled 5.3%.

Net exports peaked at 4.3% of GDP in 1947 while *net* imports peaked at 5.7% in 2005 and 2006. “Net” refers to a trade deficit or surplus. The absolute growth of trade after World War II pushed market capitalizations higher as business saw its share of sales and profits earned abroad likewise grow upward.

At its peak less than two decades ago, aggregate trade was nearly triple the share of GDP from the 1920s. More trade means more business is conducted outside the U.S. A growing share of trade is likewise conducted by public companies. Market cap is a domestic measure, and with more than half of profits earned outside the U.S. by companies in the S&P 500 in aggregate, market caps reflect and are capitalized against global earnings and not solely domestic earnings. Thus, a market-cap-to-GDP measure naturally grew over time. The measure *is* mean reverting, it’s just mean reverting in what’s been an upward sloping trend channel.

Last year’s letter touched on the possibility that the proportion of global GDP conducted via trade may be in decline. The U.S. has been a perpetual net importer since 1975, exports peaking from 2011-2013 at 13.6% of GDP and imports peaking in 2008 at 17.4%. Exports are now 11.0%, down 19.1% as a proportion of economic output while imports are 14.2%, which is 18.4% below their peak. [As a sidebar, if global trade peaked and will decline to some level over time, then perhaps the trend channel will now flatten and even shift downward. Lots of moving parts to the metric – margins, net trade and the amount of business done by publicly traded companies versus the private sector.]





Three Ways You Can Go Broke

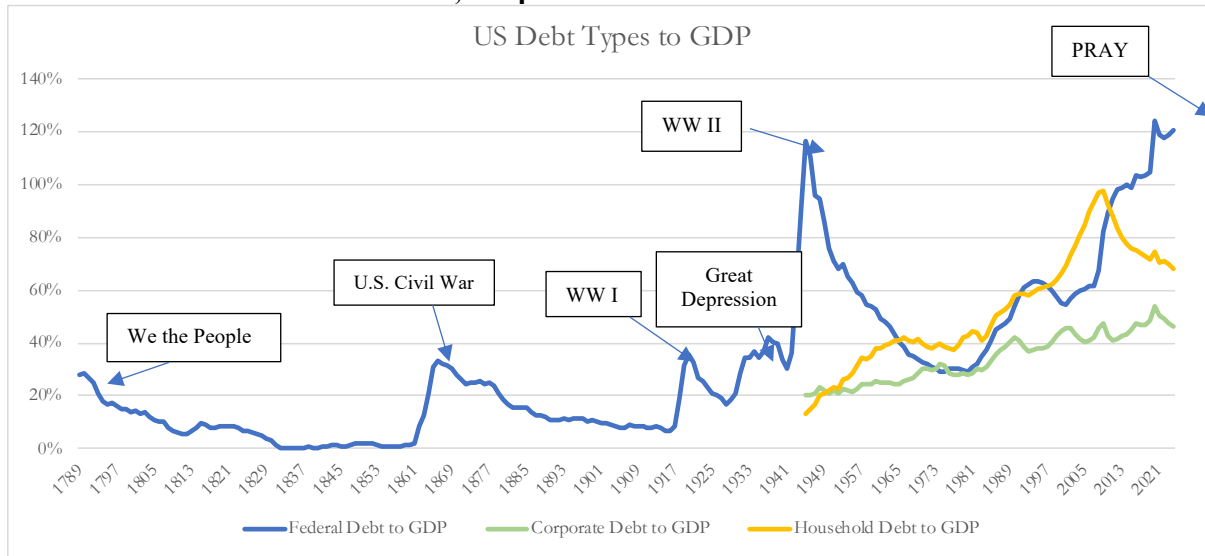
Charlie Munger famously quipped, “There are three ways a smart man can go broke: Liquor, ladies and leverage.” Warren Buffett later clarified, “Well, the truth is – he only added the first two because they start with L – it’s leverage.”

Leverage financed an increasing share of the economy steadily over the past century and is at an extreme level that retards real per-capita growth in economic output. At secular peaks stocks are priced for growth above and beyond the historical experience. When growth disappoints and servicing debt becomes untenable, asset valuations collapse. Just as night follows day or a hangover follows a bender, eventually a secular trough follows a secular peak. The here to there is no fun, at least in the case of the secular decline. If Warren is correct and it’s neither liquor nor ladies that can make you broke, you might as well roll out a barrel, grab your best gal and hold on for the ride. It’s all downhill from here, so to speak.



Interest rates peaked in 1981 with long-dated U.S. Treasury bonds (then the 20-year maturity was the “long bond,” not today’s 30-year Treasury) at 15.84% in September 1981 with short-term Treasury bills yielding 14.54% and residential mortgage rates over 20%. From the highs in yields, interest rates steadily declined to the unimaginable briefly negative interest rates on U.S. Treasury bills and the 30-year Treasury reaching 0.99% in April 2020. Progressively lower interest rates encouraged the use of increasing amounts of debt and boy was there a party.

U.S. Federal, Corporate and Household Debt to GDP

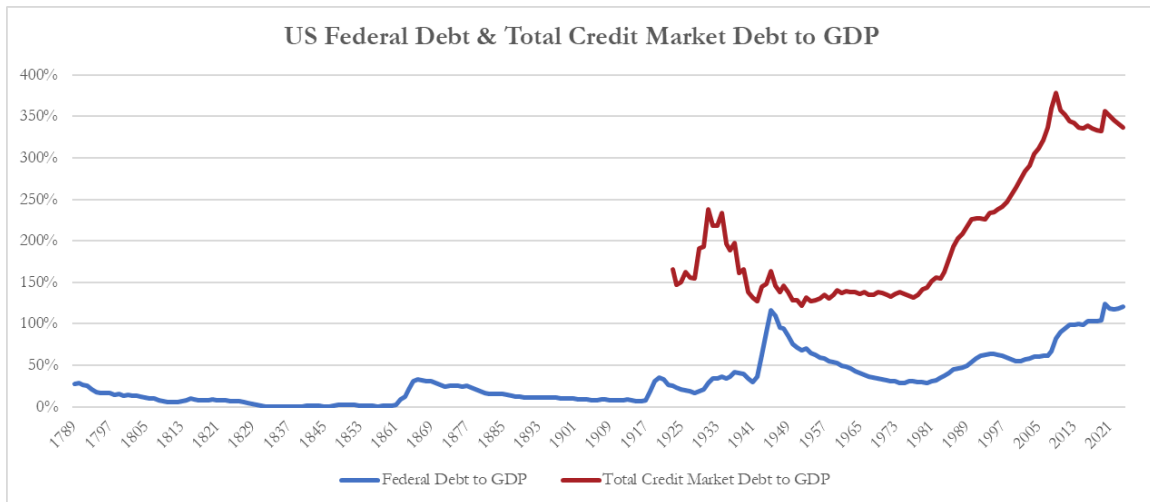


Source: FRED; U.S. Treasury (Historical Debt Outstanding), 1790-2000 (GDP); Semper Augustus

Industrialization from 1870 onward and free trade after World War II (brought to you by the Marshall Plan and the U.S. Navy securing trade lanes) fostered 2.5% real per-capita U.S. GDP growth annually on average for six decades following the Great Depression. Then something changed. Debt, particularly government debt, reached a point where the next dollar of it is not additive to economic output. Economists call this is the Law of Diminishing Returns. Muted economic output began at the turn of the most recent century.

U.S. borrowers consist of the federal government, state and local governments, corporations and households. The collective of borrowers' debts comprises total credit market debt. The relationship of total credit market debt to GDP reached 250% at 2000's secular peak, marking a major inflection point not only for the U.S. economy but for much of the industrial world. Most importantly, it was the first time outside of World War II that federal debt exceeded 100% of GDP.

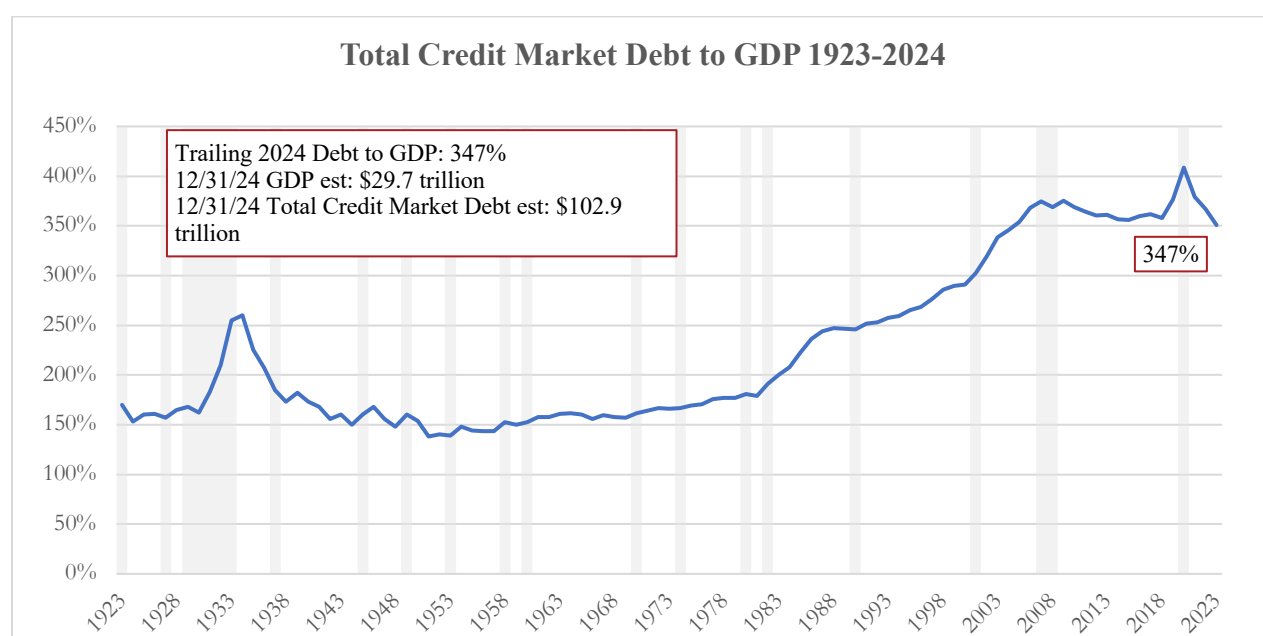
Total Credit Market Debt with U.S. Federal Debt to GDP 1789-2024



Source: U.S. Treasury (Historical Debt Outstanding), 1790-2000 CBO (Nominal GDP) 1923-1944: Annual interpolated GDP (including estimates prior to 1929) used prior to 1946. Domestic nonfinancial Debt used prior to 1946. As of December 1946, Domestic Nonfinancial Debt represented 99.4% of Total Credit Market Data 1945 to 2024: St. Louis Federal Reserve; FRED; Semper Augustus

A recessionary bursting of the 2000 tech bubble halved the S&P 500 and cut nearly 80% from the Nasdaq, leading the Federal Reserve to again aggressively ease monetary policy. Ultra-low interest rates incentivized both a full recovery in the S&P by 2007 and parallel subprime housing bubble, the bursting of which became 2008's global financial crisis and crippling of financial markets and the banking system. The Federal Reserve then acted as never before. Enter the first round of Federal Reserve Quantitative Easing (QE) and credit market debt (again, the total of government, corporate and household debt) surged from 250% to 350%. The exponential rise in leverage was mostly an increase in U.S. Treasury borrowings, increasingly financed via purchases made by the central bank to finance unlimited federal government deficits. Rising government debt in excess of GDP growth and as a share of total credit market debt crowds out private market activity and ultimately has no positive multiplicative impact on the economy, resulting in depressed national income and a slower growth of real GDP per capita.

An interesting note on the apparent precipitous rise in total credit market debt during the Great Depression. Why apparent? Nominal GDP collapsed 43% from \$103.7 billion to \$58.8 billion from 1929 to 1932. In the meantime, the absolute amount of debt outstanding likewise declined, only by a lesser 14% from \$175 billion to \$150 billion.



Source: 1923-1944: Annual interpolated GDP (including estimates prior to 1929) used prior to 1946. Domestic nonfinancial Debt used prior to 1946. As of December 1946, Domestic Nonfinancial Debt represented 99.4% of Total Credit Market Data 1945 to 2022: St. Louis Federal Reserve; FRED

Population growth is typically good for economic growth. A growing U.S. headcount averaging roughly 1.2% over the last six decades of the 20th century contributed an extraordinary economic tailwind. Subsequent slower population growth to 0.6% in the 2010s and to 0.8% for the most recent half decade shifted growth to a lower gear. But it's not a slower-growing population that weighs on output.

A robust body of academic work suggests that once government debt exceeds a certain high level, economic growth subsequently slows dramatically. The excellent work of Carmen Reinhart and Kenneth Rogoff suggests that threshold at 90% Federal debt to GDP which the U.S. reached in the Global Financial Crisis. Total credit market debt likewise reached levels that muted economic growth on the Fed's easing of monetary policy and rising deficits as the tech bubble burst. Population growth slowed to less than 1%, further pushing downward on economic output. Real GDP per capita in the first quarter of the 21st century grew at less than half the rate of the prior sixty years.

Real GDP Per Capita by the Decade – Hitting the Wall at the Millennium?

	Nominal GDP	U.S. Population (millions)	10-Year Nominal GDP Growth	Population 10-Year Growth	Average Inflation Rate	Real GDP Per Capita Growth	Average Total Credit Market Debt to GDP**
1940s ^	\$280.8 B	157.3	7.7%	1.4%	2.1%	4.2%	160%
1950s	\$542.6 B	179.3	6.8%	1.3%	3.8%	1.7%	145%
1960s	\$1.05 T	203.3	6.8%	1.3%	2.1%	3.4%	158%
1970s	\$2.8	226.5	10.2%	1.1%	6.9%	2.2%	169%
1980s	\$5.9	248.7	7.7%	1.0%	4.5%	2.2%	216%
1990s	\$10.0	281.4	5.5%	1.2%	2.0%	2.3%	265%
2000s	\$14.7	308.3	3.9%	0.9%	2.2%	0.8%	344%
2010s	\$21.7	328.2	4.0%	0.6%	1.9%	1.3%	362%
2024 5-yr	\$29.7*	341.1*	6.5%	0.8%	4.2%	1.5%	354%

*estimated

Source: St. Louis Federal Reserve; BEA; U.S. Census Bureau; Semper Augustus

**At decade end, so 1949, 1959, 1969, 1979, 1989, 1999, 2009, 2019 and 5-year average to 2024

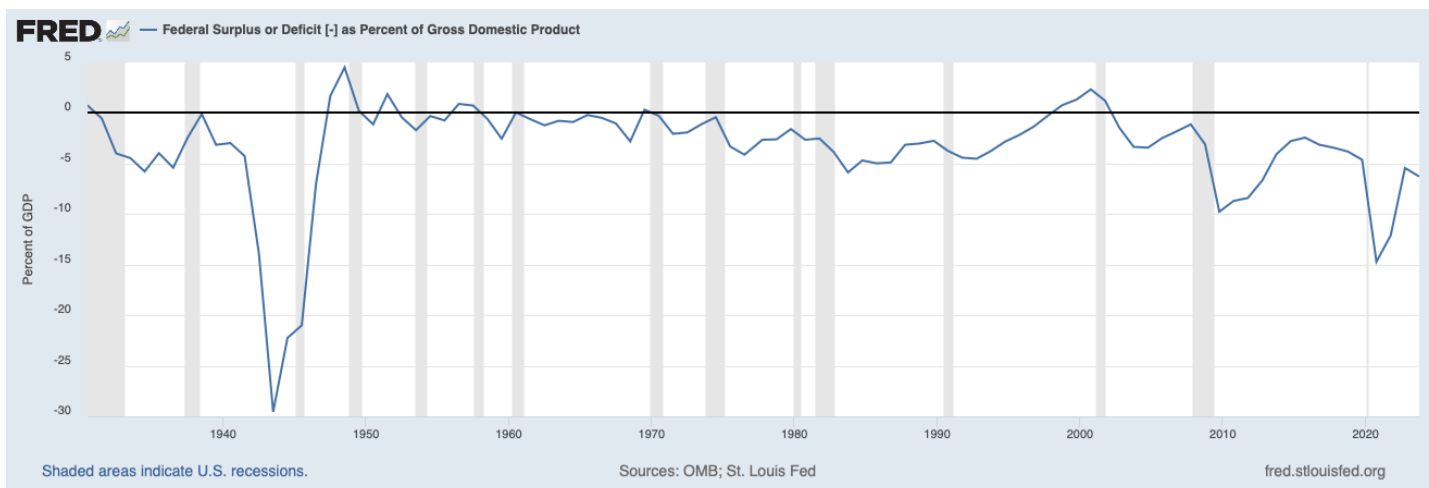
^4Q 1939 GDP \$92.2 billion; 12/31/1939 population 132.1 million

Prospective economic growth will almost surely not rise to the experience of the 20th century—AI-related productivity gains notwithstanding. While total credit market debt flatlined at 350% of GDP since the 2008 GFC, government's share of the debt only marched higher. Federal debt is 121% of GDP as of September 30, 2024, and looks to be higher as of yearend. The next data release date is February 27, 2025.

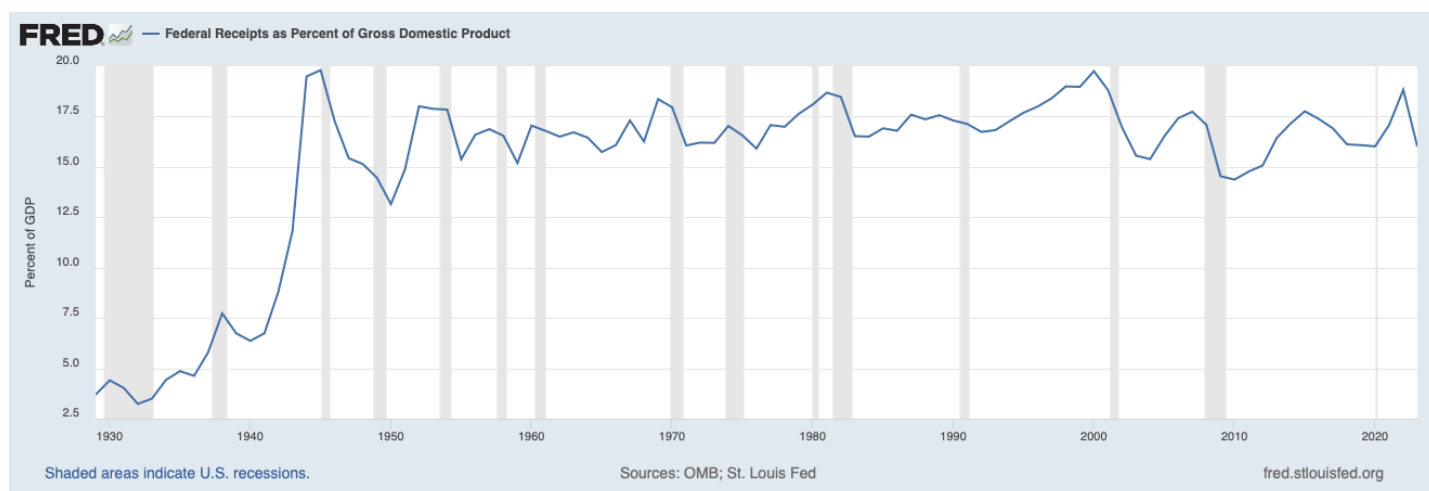
To be determined is whether recent regime change across much of Europe, Canada and the U.S. leads to perhaps some semblance of fiscal prudence. If history is any guide don't hold your collective breath. A new executive in the U.S. promises a budget-cutting Department of Government Efficiency (DOGE, doggone unbelievable) spearheaded by two (whoops, now one) large personalities. Facing the back end of the retiring large Baby-Boom Generation, cost cutters are up against budgets largely comprised of non-discretionary spending. Think Social Security and Medicare, both of which are pay-as-you-go systems and both of which will consume increasingly larger shares of both GDP and government spending. Consider that over the last decade alone U.S. federal tax revenues rose 57% while spending surged 94%, the difference leading to a doubling of federal debt from \$18 trillion to \$36 trillion. Mercy.



Outside of the deeply recessionary 2020 pandemic, 2008 GFC and World War II, the U.S. ran its largest budget deficit in 2024. Large deficit spending is typically only undertaken to finance large wars. See the earlier chart on government debt during the Civil and two World Wars. Borrowing from Warren Buffett's observation on not electing Dobermans to boards of directors' compensation committees but Chihuahuas, we most definitely don't elect fiscal Dobermans to public office and certainly don't appoint monetary ones to central banks. Time will tell if the recently reelected CEO of the U.S. has the teeth of a Doberman on fiscal restraint or just the bark. Lots of dogs in the D.C. kennel with turf to protect.



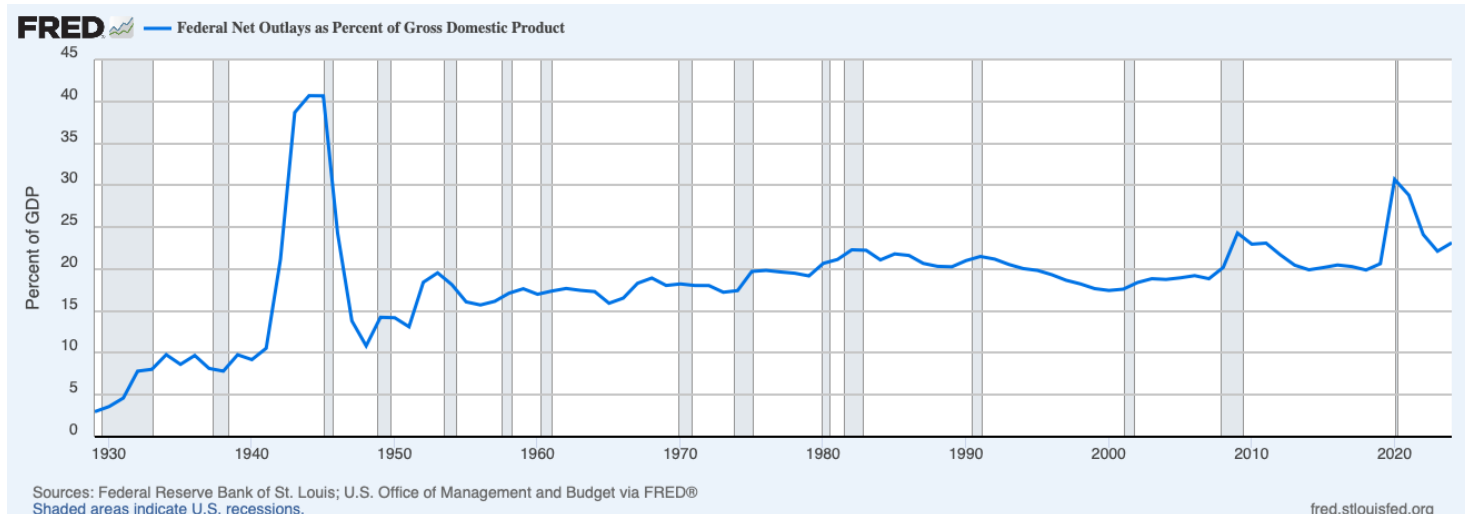
The difficulty facing those inclined to prudential fiscal sensibility can be put in perspective by first looking at income to the federal government. The proportion of GDP collected by Washington as receipts, largely tax revenue, can be seen in the chart below. Regardless of policy machinations put in place by various executives and congresses, tax revenues are somewhat constant over time. I'm far from trained as a market technician but could capably draw a median line after World War II to the present and conclude that tax revenues average around 17.5% of GDP per year, give or take (take being the operative, no pun intended), ranging between 15% and not quite 20%. Interesting in the chart that prior to the 1930s Great Depression, government was just government, not yet **BIG** government.



It's not so much the getting that's the issue at large. You can only get so much blood from a turnip, or from the overtaxed dying corpse of the U.S taxpayer. It's the outlays we struggle with. Quaint is the notion of balancing a budget. Companies can do it. Households can. Even some state and local governments can do it. But the federal government? Not so much.

One Franklin Delano Roosevelt decided only government could be the cure for the ills of a depression, so he leaned hard into putting the big in Big Government. Heck, he liked running the ballooning bureaucracy so much he dispensed with the two-term maximum for himself. Receipts as a percent of GDP more than doubled during the depression from roughly 3% in the early 1930s to 7.7% by 1938 and drifted one point lower to 6.7% by the end of 1941. An infamous day on December 7 of that year finally pulled the U.S.

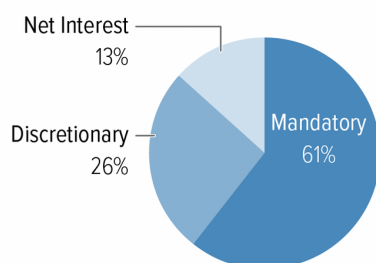
into the war already raging worldwide. By war's end in 1945 Uncle Sam was collecting almost 20% of national output. GDP incidentally surged during the war, making the tax haul massive. Of course, waging a two-front war and ensuring English wouldn't become a second (or a dead) language cost more than a pretty silver penny. Outlays exploded from 10.6% of GDP in 1941 (yep, we were already on Roosevelt Express deficit train) to 21% the next year, 39% in 1943 and 40.7% during the final two war years, 1944 and 1945.



Fast forward to today's encumbered situation and the well-intentioned cost cutter faces a herculean task. Slash spending where bloat exists, and not only will they howl but output may suffer in the short term. GDP ended fiscal 2024 at \$29 trillion. Receipts at 17% of GDP sent \$4.9 trillion to Washington. Spending, always more, ran \$1.9 trillion more than receipts, or \$6.8 trillion, 23.4% of GDP. The 6.4% difference between receipts and larger outlays represents the deficit. As a percent of GDP, the deficit is greater than the 50-year average of 3.8% and has been larger only six times since 1946 (from 2009 through 2012 and in 2020 and 2021 – that's the global financial crisis and the Covid pandemic).

As far as I know, we are not in another civil war; we are not in another pandemic; and we are not in another world war. Well, maybe. Stay tuned. Hyperbole aside, the annual deficit is huge and rising to an unfathomable peacetime level. Breaking down the outlay side of the ledger, how much fat can (or will) be cut from spending? The answer is not much. Discretionary spending totals just over a quarter of federal

Components of Federal Spending, Fiscal Year 2024



Source: Congressional Budget Office with effect of certain timing anomalies removed, June 2024

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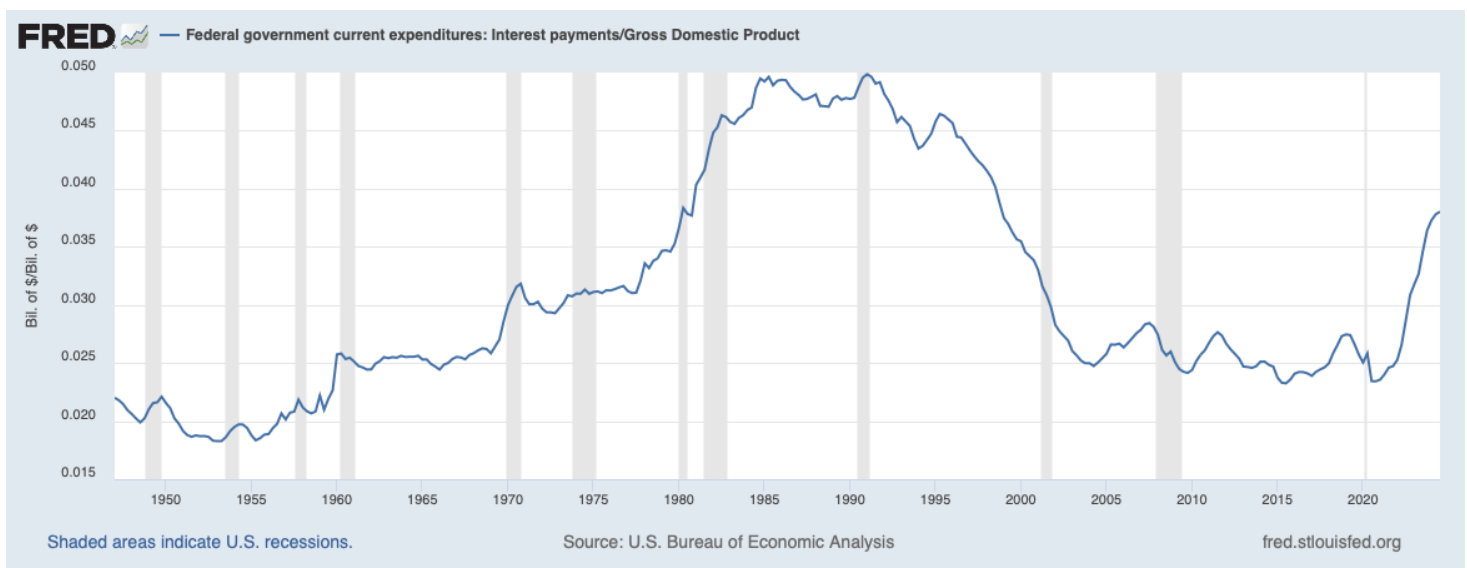
outlays, or \$1.75 trillion in 2024. Suppose budget cutters miraculously find 10% of discretionary spending to eliminate. That's \$175 billion, not insignificant, but a mere 0.6% of GDP (and randomly roughly the amount of money sent to Ukraine over the last three years, which in their case is larger than the country's GDP). Presumably, any cut in spending will also reduce GDP by a like amount, at least in the *very* short term (my school of preference, the Austrian one, concludes government spending has no positive multiplier, meaning it doesn't foster economic growth – in fact it can have a negative multiplier, meaning it harms economic output).

Mandatory spending derives from law written by congressional committees authorizing a program and the amount of funding. The authorizing law often defines who meets eligibility and can

receive benefits determined by formula or benefits like health care. Mandatory programs are Social Security, Medicare, Medicaid, federal military and civilian retirement, veterans' disability, the Supplemental Nutrition Assistance Program (SNAP, code for food stamps), and farm subsidies. The largest of mandatory spending programs are Social Security and Medicare. Unless benefits are cut, these untouchables will drive spending only higher for at least two decades. Social Security is known as the "third rail of American politics" – touch it and you are dead. It's not unlike the price of the Costco hot dog with free soda refills.

"Discretionary" spending is set via annual appropriations legislation. Most defense spending is discretionary, as are operating budgets of civilian agencies, veteran medical care, grants for education and medical and scientific research, and some low-income housing assistance programs. Annual discretionary funding programs are written by House and Senate Appropriations Committees. Discretionary was a poor choice of a word for what happens. Federal programs in motion tend to stay in motion, while equal and opposite forces opposing them are extremely rare.

Outside of executive action, the White House does not spend the money. Congress controls the purse strings of government. Congresspeople have constituents. What they really have are lobbyists and special interests. It may be shocking to learn that some politicians find themselves indebted for favors: paybacks for things like financing election campaigns. Try getting rich on a politician's salary. Most do.



Interest on the federal debt is neither categorized as mandatory nor discretionary. Good luck deciding not to pay it either way. Headline news in 2024 reported that gross interest on the federal debt now exceeds \$1 trillion annually, nearly 3.5% of GDP. The portion of interest paid to the Federal Reserve is netted back to the Treasury, so reported interest for budget purposes is only on the portion paid to the public.

The Role of the Fed in the Treasury Market – Moral Hazard

Stating the obvious, deficits require financing. The household that is spending more than its income must borrow (after burning through its savings). Ditto for the government. The U.S. Treasury was forced to borrow \$1.9 trillion to finance its outlays exceeding its revenues. Over the last decade it increased its debt by \$18 trillion, a figure matching all the debt it had run up since the founding of the republic. As mentioned earlier, the federal debt doubled in a mere decade. Who lends such sums to such a profligate spender?

SOMA! SOMA! SOMA!

Conventional buyers of U.S. Treasury securities, which exist as a byproduct of the government outspending its income, consist of the usual suspects – banks, households, corporations, U.S. government accounts, state and local governments, hedge funds, bond funds, mutual funds and ETFs, insurance companies, private pension funds, state and local government pension funds, foreign central banks, foreign governments and sovereign wealth funds. Oh, and the largest holder – the Federal Reserve. The Fed, however, is only recently the largest owner of U.S. Treasury debt.

A country running a trade deficit is said to run a current account deficit. It simultaneously runs a capital account surplus and vice versa. Net exporters have trade surpluses (current account surpluses) and capital account deficits. In economic terms, the current account represents receipts and payments in cash as well as non-capital items, while the capital account reflects sources and utilization of capital. The sum of the current account and capital account reflected in a country's balance of payments will always be zero. Any surplus or deficit in the current account is equaled by a deficit or surplus, respectively, in its capital account. Take Japan as an example. The country for decades has been a net exporter to the U.S. Their trade surplus means they wind up with more dollars, being a net seller of goods. Those dollars must either be sold or invested in dollar-denominated assets, which in Japan's case meant buying U.S. Treasury securities.

Prior to the 2008 global financial crisis, monetary policy primarily involved the setting of short-term interest rates by the Federal Reserve to meet its policy goals. In recent decades those goals meant a low inflation rate and low unemployment. [The 2% inflation target was explicitly defined by the Bernanke Fed in 2012. Bernanke of course was the Fed Chairman who couldn't identify a bubble until after it blew up – but sure, the Fed can micromanage the inflation rate.] The Fed's Treasury portfolio was \$832 billion in 2007, roughly 8% of all Treasury debt outstanding at the time.

The Fed's balance sheet merely supported monetary policy. Adjustments to the balance sheet were, and are, made daily to achieve the target that the Fed's Open Market Committee (FOMC) set for its fed funds rate, the rate at which banks borrow and lend reserves to each other overnight. Each day, the Open Market Trading Desk at the Federal Reserve Bank of New York estimates the amount of reserves required to keep the fed funds rate within its target range. To do so, the trading desk adjusts the amount of reserves in the banking system by buying or selling Treasury bills. The reserves are a Fed balance sheet liability (and a corresponding asset of the private market dealer banks that maintain reserves at the Fed). Prior to the financial crisis, the size of the Fed's balance sheet was relatively small, and its assets were mostly Treasury bills. The Fed's holdings of Treasuries and now other marketable securities are held in what's called its System Open Market Account Portfolio (SOMA). Prior to the financial crisis the portfolio consisted of the Treasury bills required to support the FOMC's maintenance of the funds rate. No longer is this the case.

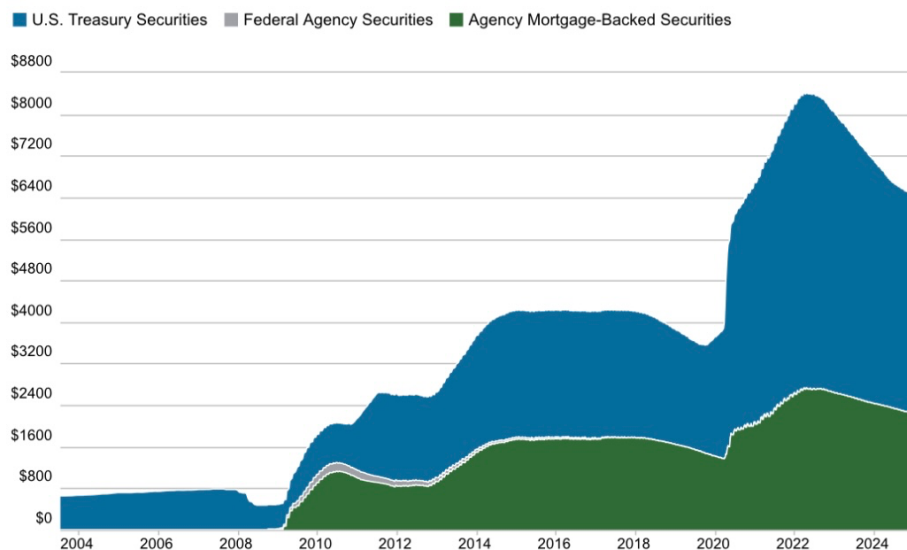
The bank owns other assets such as nominal holdings of gold, foreign currency, U.S. Treasury currency, Special Drawing Rights and various loans remaining from recent crises. As of this writing Federal Reserve balance sheet assets total \$6.832 trillion, \$6.74 trillion of which are Treasury and Mortgage-backed securities.

On the other side of the balance sheet the Fed has liabilities. These are Federal Reserve notes, reverse repurchase agreements, deposits from banks and dividends payable, plus a liability for earnings due to the U.S. Treasury. Netting its assets and liabilities, the central bank has total capital of \$44 billion, against assets of more than \$6.8 trillion (down from nearly \$9 trillion two years ago). Yes, you read that right,

capital with a “b,” not a “t.” Assets are 155x the Fed’s capital. The Fed happens to have a non-mark-to-market loss on its “investments” in term Treasuries and mortgages in the SOMA portfolio. Mark the portfolio to market and a minus sign would exist in front of the capital line on the right side of the balance sheet. Parentheses work as well, as they indicate a negative. This never gets old.

The subprime housing bust crippled much of the banking and financial system, taking the stock market down with it. The Fed slashed interest rates to zero by the end of 2008, setting the target range for the fed funds rate at a record low 0% to 0.25%. To no avail, the economy and financial markets continued their decline. The Fed then borrowed a page or three from the Bank of Japan’s playbook and launched quantitative easing (QE), whereby the Fed purchased longer-dated Treasuries, and remarkably, mortgage-backed securities. This was not the Fed envisioned at its 1913 founding.

Federal Reserve System Open Market Account Portfolio (SOMA)



Source: Federal Reserve Bank of New York

The 2008 financial crisis nearly decimated the entire banking system. Response by the central bank and the Treasury were unprecedented. Total credit market debt exploded to 350% of GDP in 2007, up from 270% at the peak of the tech bubble in 2000 and 158% in 1982 at the outset of the bull market in stocks and peak in interest rates. From 2000 to 2007, GDP grew \$4 trillion, but the economy took on a staggering \$25 trillion in new credit market debt, doubling the on-balance-sheet amount held by the private sector to \$50 trillion. Signs of trouble appeared in residential real estate in 2007 and among European banks. The Fed established several swap lines with numerous foreign central banks and by late 2007 created a Term Auction Facility (TAF), which functioned as a run-around lending conduit to U.S. banks in distress. Banks typically more conventionally (and very publicly) borrow through the Fed’s discount window. Throughout 2008, liquidity and collateral became scarce as the subprime mortgage market melted down. The Fed, along with the Treasury, created myriad facilities to provide credit and backstop entire segments of the loan market. The Troubled Asset Relief Program (TARP) was an act enacted by Congress that sent liquidity to homeowners and allowed for direct investment in private companies (General Motors for example). Without exhaustively running through all the acronymed programs created by the Fed, those supported included:

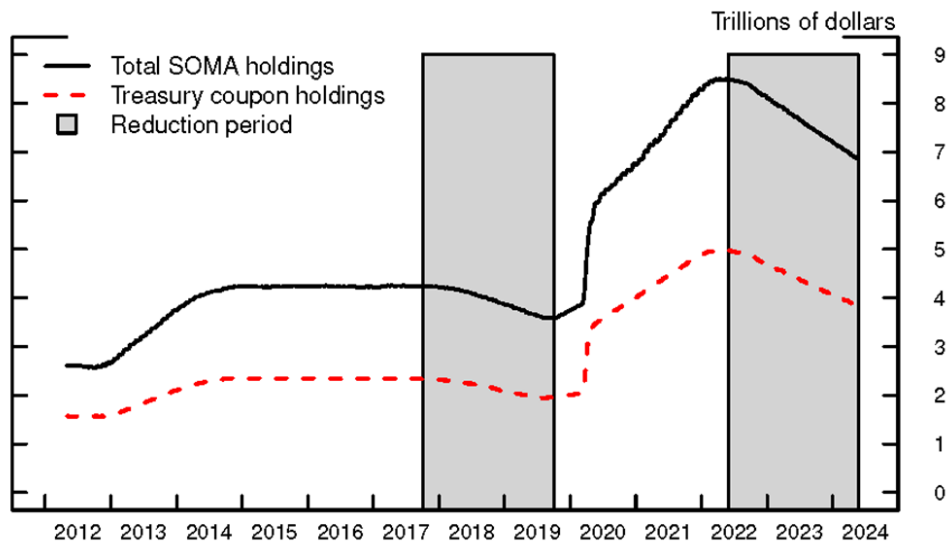
- Primary dealers (counterparty banks and brokers to the Fed that conduct primary operations in the U.S. Treasury market).

- The entirety of the money market fund complex through guarantees of bank accounts and in commercial paper (GE, for example, couldn't roll its \$90 billion commercial paper obligations and was functionally bankrupt).
- Holders of asset-backed securities: student loans, credit card loans, auto loans, equipment loans, floor plan loans, insurance finance loans, SBA-guaranteed loans, mortgage servicing rights and various commercial mortgage-backed securities (CMBS).

Debate persists over whether the Federal Reserve exceeded its authority under the Federal Reserve Act. During the depths of the Depression, the Fed's powers were expanded in 1932 with Section 13(3) of the Act, expanding its lending authority among banks and again in 1933 by Section 13(13), authorizing loans to corporations and partnerships of the *highest credit quality* so long as the loans were collateralized by *direct obligations of the government*. The scope of the Fed's powers in times of "unusual and exigent circumstances" really came to bear in 2020. It remains unclear if the Fed did exceed its authority. There can be no doubt, however, that the policy response to shutter the global economy introduced unusual and exigent circumstances. How ironic that I'm writing this on Friday night January 18. Former Fed Chair and current Treasury Secretary Janet Yellen bid adieu today to her Treasury colleagues, who awarded her with a gauntlet of standing ovation. In her final speech, at 5:00 pm, the Secretary announced a parting gift to the country: "The federal government will hit its debt limit on Tuesday (the day after inauguration). I advised the U.S. Treasury to initiate extraordinary measures." I try to supply what I think is humor to this letter. No help needed here. Off to the speech circuit.

Federal Reserve assets ballooned from \$832 billion in 2007 to \$2.2 trillion by the end of 2008 by buying longer-dated Treasuries and mortgages. In retrospect these purchases became Quantitative Easing 1 (who knew then that the central bank was just warming up the printing press). Those commercial banks and investment banks that didn't fail by then survived or were seemingly on more solid footing. Myriad failed banks were rolled into more healthy ones. All large banks took "voluntary" new and dilutive capital courtesy of the Treasury whether they believed they needed it or not. Fannie and Freddie were rolled into conservatorship by the Treasury (and may finally emerge as private entities this year). The new capital helped offset losses incurred in the banks' mortgage holdings.

Balance Sheet Reduction



Source: Board of Governors of the Federal Reserve System

Once clear of the crisis, the Fed shrunk its balance sheet by not replacing some of the U.S. Treasury and mortgage debt it had acquired and allowed maturing securities to roll off at maturity. The balance sheet was reduced by roughly 10%, to \$2 trillion, and the market reacted badly, sending long-term interest rates and credit spreads both upward. It was obvious, to the Fed at least, that more “stimulus” was required. The first of three additional iterations of Quantitative Easing was rolled out in early 2009 and lasted intermittently until 2014 with the balance sheet now loaded mostly with \$4.5 trillion in Treasuries and mortgages.

The stock market celebrated the Fed’s expansionary monetary policy. The S&P 500 returned 126%, an annual rate of growth of 17.3%, from the outset of the first QE through the end of QE3 in 2014. Six years clear of a recession, the Fed then telegraphed and again shrunk the balance sheet. Over the next four years of taper, the S&P 500 gained only 7.2% per year on average and declined in 2018 by 4.4%. Over the course of the decade that began at the end of the crisis, real GDP per capita advanced a mere 1.3% annually, nearly 2% per year below its average rate of growth over the seven decades prior. It was clear, despite the massive leveraging of the Federal Reserve’s balance sheet undertaken to finance deficit spending, that increases in government debt weren’t working. Even a parallel leveraging of non-financial corporate debt outside of the banking system proved of little value.

Having set its fed funds target at 0 to 0.25% in December 2008, the rate sat there until December 2015. The central bank then tightened its target range with nine quarter-point hikes to 2.25 to 2.50% through December 2018. Simultaneously, the Fed persisted in tapering the balance sheet from \$4.5 trillion in 2014 to just under \$3.7 trillion by August 2019. The tapering of the balance sheet came with a reduction in bank reserves held at the Fed, both required and non-required reserves. The drawdown in reserves reduced the amount of cash the banking system had on hand for overnight lending in the overnight repo market (where banks lend cash overnight to institutions in exchange for collateral, generally U.S. Treasuries). The squeeze in liquidity became a crisis, so again out came the printing press.

The Fed lowered fed funds to a target range of 1.50-1.75% in three quarter-point cuts between August 1 and December 31, 2019. At the same time, the Fed ran its balance sheet back up, buying Treasuries back out of the market in exchange for cash, which the banks desperately needed.

Finally to the meat of this section, the Treasury ran large ongoing deficits with the Fed financing most of the net new Treasury issuance, which is money printing. When the Fed later shrinks its balance sheet by not replacing maturing Treasury securities (and mortgages) with new ones, what are the Treasury and federal government not doing? They aren’t running surpluses, and neither are they retiring debt. With the Fed not replacing its maturing assets and the Treasury needing to replace retiring debt (and finance deficit spending) the private sector in the U.S. and abroad is forced to a position of absorbing new Treasury debt issued to replace maturities and new debt issued to finance deficit spending.

The Fed’s balance sheet was back up to \$4.2 trillion by the end of February 2020, only \$300 billion below its \$4.5 trillion QE3 peak in December 2014. The Fed insisted this latest round of Treasury purchases weren’t QE. Whatever. When the launch of the China virus struck its global target, what came next most certainly was QE. In response to widespread lockdowns, the economy ground to a halt and stocks tanked more than 30% over just a few weeks. The Fed cut interest rates by a half point on March 3 and then was back to zero with a full 1% cut on March 16, setting the target range for fed funds again at 0 to 0.25%. The bond market faced enormous liquidity and collateral posting strains. The Fed purchased \$1.7 trillion of Treasuries between March and June and a boatload of mortgages as well. Not the original intent of open-market operations to be sure. On March 17, 2020, the central bank reopened several of its financial crisis conduits to support primary dealers, the commercial paper market, the term asset backed security market and state and local governments. Central bank liquidity swaps were also beefed up with its

primary central bank “partners” but also with nine new foreign central banks. A day later they backstopped the money market mutual fund complex, just as they had done in 2008.

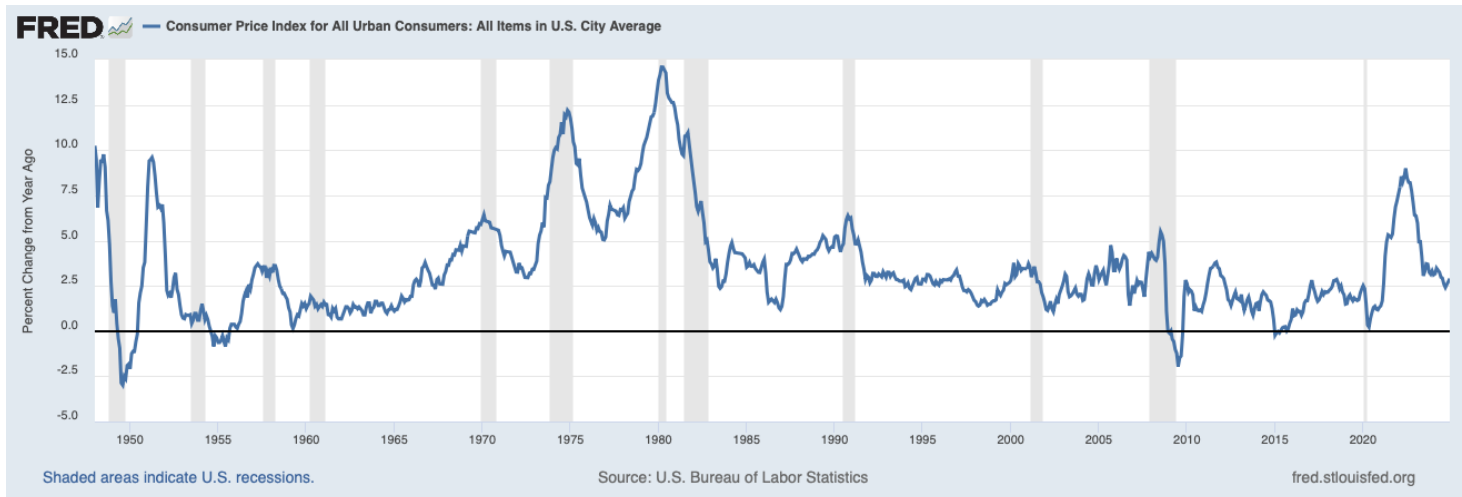
The crisis was the most severe and sudden economic decline on record. New programs were introduced, pushing the bounds of the Federal Reserve Act. On March 23, a Primary Market Corporate Credit Facility (PMCCF) and a Secondary Market Corporate Credit Facility (SMCCF) were introduced. The Primary Facility extended *direct credit* to investment grade corporations. The Secondary Facility went further, allowing the purchase of investment grade bonds in the *secondary market* and the purchase of U.S. corporate exchange traded funds (ETFs). In other words, the central bank could buy bonds in companies that had *previously* issued the debt. The purchases were not a source of funds for the issuing companies but provided cash to whomever was *selling* the bonds or ETFs. Further, the purchase of ETFs not only didn’t provide liquidity to companies, but it allowed for the purchase of non-investment grade debt, also known as junk.

By year-end 2020, assets on the Fed’s balance sheet had doubled in 15 months to \$7.4 trillion, nine times larger than at the outset of the 2008 global financial crisis. The balance sheet at the Fed thus grew by more than 18% per year over 13 years. Of the nine-fold expansion, the balance sheet doubled during each of the two crises, with QE making up the additional difference between crises.

Although well past the pandemic, the Fed continued with QE, by now in its fourth iteration, and by April 2022 total assets on the balance sheet stood at \$8.97 trillion (call it \$9 trillion), nearly 11 times larger than its size 15 years earlier. Of the nearly \$9 trillion balance sheet, its SOMA portfolio held \$5.7 trillion “invested” in Treasuries and \$2.74 trillion in agency and mortgage-backed securities. The Fed’s ownership of Treasury debt outstanding climbed from less than 9% in 2007 to 19% in 2022.

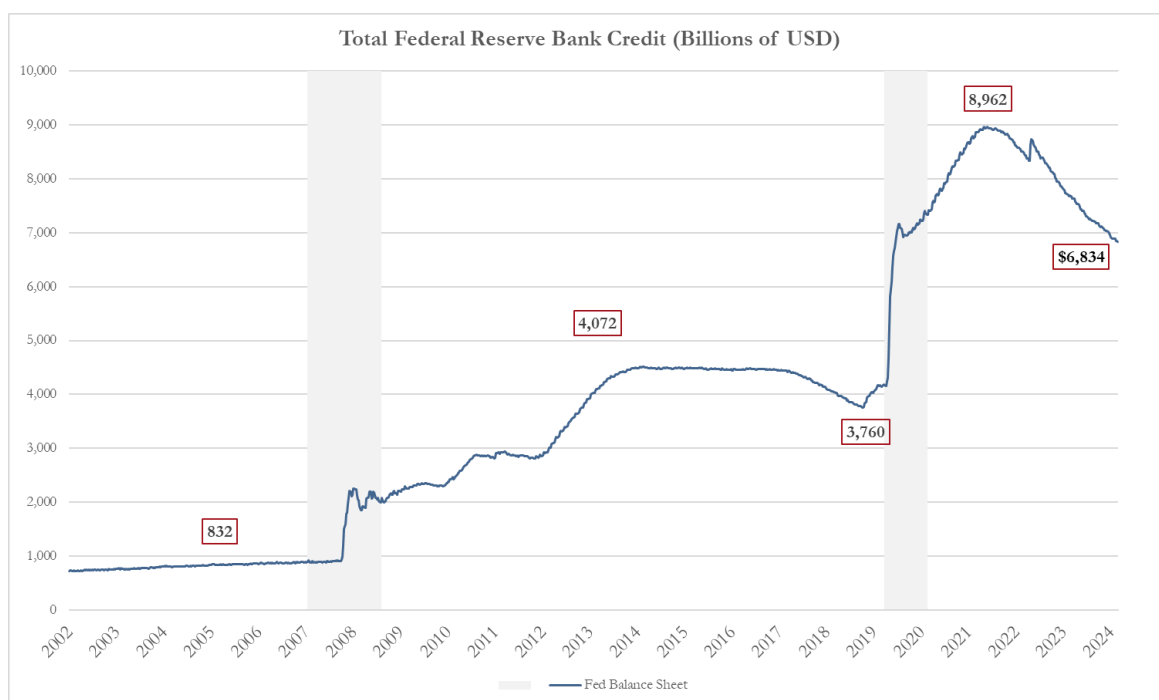
CPI inflation was running a white-hot 8.25% when the Fed’s balance sheet peaked in April 2022. To combat inflation (which the Fed won’t acknowledge fomenting in the first place despite too-low interest rates for too long, hyper-growth in the money supply and four rounds of QE), fed funds were hiked by 0.25% in March 2022 and in a series of quarter- and half-point hikes that took the target rate to 5.25-5.50% by July 2023 where the rate remained until September 2024. At year-end 2024 fed funds are 1% lower at 4.25-4.50%.

Stock market direction is often dictated by changes in interest rates and expectations for changes in interest rates. Rates do determine the present value of cash flows and profits expected to be earned over time so there is a correlation between stocks and interest rates. Rates are but a component, however, as are changes in profits and expectations for changes in profits. It does reason that as expectations for interest rate hikes by the Fed heading into 2022 were manifested throughout 2022 that stocks would react badly, and they did. Profits declined for the S&P 500 during 2022, directly contributing to price weakness. By 2023, expectations for interest rate cuts were prevalent and the index turned on a dime. It’s very interesting that despite tight monetary policy via rate hikes from March 2022 through July 2023 the Fed was simultaneously conducting tight monetary policy via its SOMA portfolio, meaning shrinking the balance sheet.



Inflation has run north of the progressively inspired central bank’s 2% “mandate” since March 2021 to the present. Despite this, in April 2022 when total Fed credit and the balance sheet peaked at nearly \$9 trillion, the Fed again entered a round of Quantitative Tightening, reducing the balance sheet. The Fed began reducing U.S. Treasury and mortgage-backed security debt monthly by \$60 billion and \$35 billion respectively. On May 1, 2024, coincidentally an election year, the Fed reduced the cadence of balance sheet reduction by reducing Treasuries redeemed from \$60 billion to \$25 billion.

By year-end 2024, total Federal Reserve Credit was \$6.85 trillion, down \$2.1 trillion or 24% from its peak. Maturing Treasuries were not replaced to the tune of \$1.5 trillion, shrinking from \$5.8 trillion to \$4.3 trillion. The Fed’s mortgage portfolio is \$500 million lower to \$2.23 trillion, down 18.3%. Mortgages tend not to prepay when interest rates rise, an understatement which more “sophisticated” investors now understand than before rates rose. We have duration, and we have convexity. Too many banks, including the central one, now appreciate this.

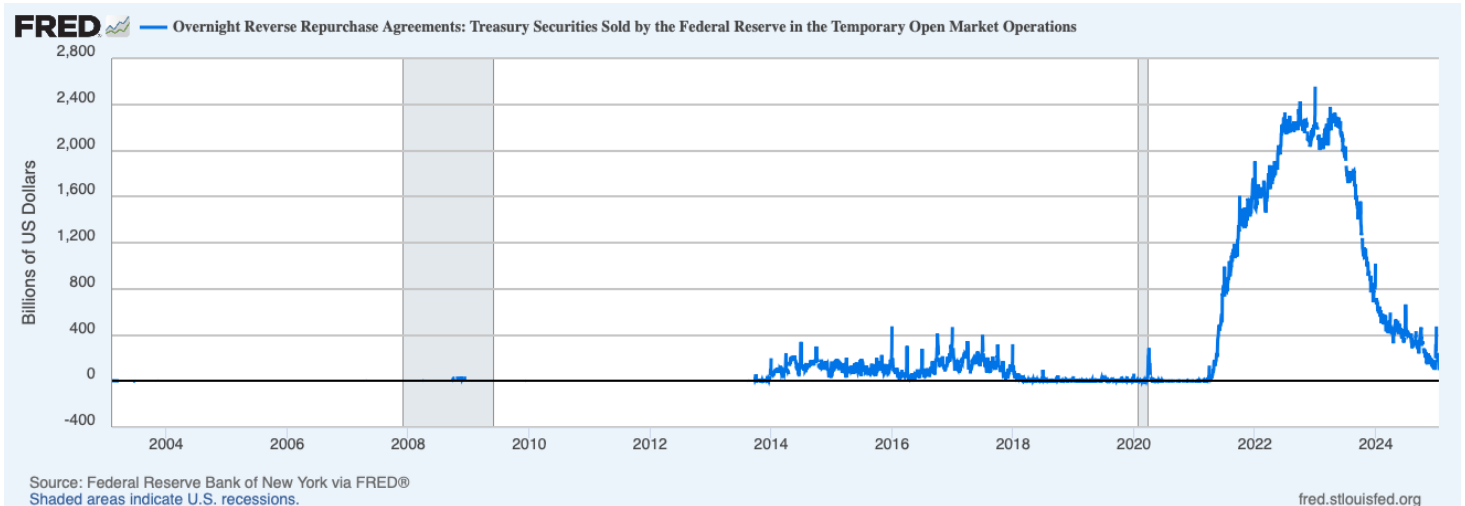


Again, and importantly, because the government runs deficits, not only must it borrow to finance spending above receipts, but the Treasury must also find a buyer for maturing Treasury debt no longer replaced in the Fed's SOMA portfolio. Deficits ran \$1.4 trillion, \$1.7 trillion and \$1.8 trillion for the three years 2022 to 2024 respectively, totaling \$4.9 trillion. Add a \$1.5 trillion reduction in the central bank's Treasury holdings over the same period and that's \$6.4 trillion of Treasury debt the private sector absorbed, but only to a degree.

Offsetting the reduction in liquidity resulting from the Fed shrinking its balance sheet was a parallel injection of liquidity courtesy of the Yellen Treasury. As the Fed ran its latest round of QE, growing the balance sheet by more than \$5 trillion from the outset of the pandemic through April 2022 when QT began, it simultaneously withdrew liquidity from the system by attracting overnight reverse repurchase agreements from money market funds, government-sponsored enterprises, primary dealers, and banks to the tune of \$2.2 trillion, nearly half of the balance sheet expansion.

Why would these institutions deposit funds in repurchase agreements instead? When the Fed began shrinking the balance sheet, it simultaneously began hiking the funds rate. It likewise raised the interest rate on which it pays for overnight reverse repurchases and through mid-2023 the repo rate was set above market interest rates such as the 3-month U.S. Treasury bill yield, attracting liquidity via repos.

When the Fed later launched QT by shrinking the balance sheet, the Yellen Treasury altered the mix of borrowings to a larger proportion of T-bills, thus increasing supply and ultimately pushing the market-set bill rate above the Fed's reverse repurchase rate. Higher yields available on bills attracted cash parked in repos and injected liquidity into the system. Here in mid-January 2025, reverse repos at the Fed are down to \$100 billion, \$2.2 trillion below their peak level in 2023. Essentially the Treasury indirectly (purposely?) more than offset the entire shrinkage of the Fed's SOMA, thus *adding net liquidity* to the system. Going forward, ongoing reduction in the Fed's balance sheet, up to \$60 billion per month, *will* amount to monetary tightening.



Earlier, we identified who owns the federal debt. We know the Fed owns \$1.5 trillion less of it via QT. Insurance companies have been big bond buyers over the last two years as capital positions were fortified during a very hard and profitable underwriting cycle (insurance capital was destroyed in 2022 due to falling bond prices, falling stock prices and underwriting losses). Households, likewise, were attracted by higher interest rates and allocated heavily to Treasuries, particularly T-bills, when yields were above 5%.

Foreign and international investors owned \$8.7 trillion on September 30, 2024, up \$1.1 trillion since the Fed initiated QT in April 2022.

However, we've seen net foreign central bank redemptions of Treasuries since April 2022. Central bank custody holdings are down \$200 billion. If the Fed and its central bank cousins are reducing their collective holdings of Treasuries, the two largest price insensitive buyers are therefore not only not supporting the federal debt market but are pushing downward on Treasury prices. This will exacerbate now that reverse repurchases are back close to zero. Unlike the Fed and its cousins, the marginal free-market buyer of credit is often price and yield sensitive. The 30-year Treasury yields almost 5.0% at this writing, pushing its highest rate since 2023 and 2011. Excessive supply only finds demand at a price (higher yields) when the buyer is price sensitive.

Summary

This section of the letter fails to succinctly identify three ways you can go broke. Even Warren dismissed Charlie's liquor and ladies as alliteration. Semper is with Charlie on leverage so that's one for sure. His quote at the outset about not getting rich by paying high P/Es during a speculative boom would make for a great number two. That's the gist of why secular peaks and troughs are discussed at length. As for a solid third path to the poor house? Loads of alternatives here. Listen to charlatans? Plenty of those around over the last few years. Several come to mind.

The S&P 500 and market-cap-weighted fundamentals are clearly at or above levels seen at every secular peak in the last century. Debt, particularly federal debt, is extraordinarily large relative to GDP and at levels that inhibit economic growth. Fiscal restraint, while logical and needed, if implemented will bring short-term economic headwinds. A slower-growing economy will bear on asset prices. Rising deficits likely will result in higher-than-target inflation. Lenders to the Treasury, particularly price-sensitive lenders, will require higher interest rates. Slower growth and higher interest rates bear on asset prices. If it's not a secular peak, it's most certainly not a secular trough.

Secular peaks merit extreme caution. The current situation looks, waddles and sounds an awful lot like a duck. The index owner might think about ducking out.

The next section quantifies expected returns in what will be, for regular readers of the letter, the interplay of five factors comprising stock market returns. The S&P and many of its largest overvalued constituents stand to produce mediocre to awful returns over the next 10 to 15 years. You don't get rich by overpaying or by owning excessively overvalued assets at or near a secular peak. Good thing we own individual undervalued securities and not overvalued indices.

BOGLEHEADS

“Buying funds based purely on their past performance is one of the stupidest things an investor can do.” – John Bogle

“The most important of these rules is the first one: the eternal law of reversion to the mean (RTM) in the financial markets.” – John Bogle

“...the great British economist John Maynard Keynes, written 70 years ago: “It is dangerous... to apply to the future inductive arguments based on past experience, unless one can distinguish the broad reasons why past experience was what it was.” – John Bogle, on Keynes



“Past performance is not indicative of future results” is the ubiquitous admonition mandated for all investment communications and marketing materials under Rule 156 of the Securities Act of 1933. The U.S. Securities and Exchange Commission eponymously hatched in 1934 with passage of the Securities Exchange Act of 1934. Just imagine if Congress had been more perspicacious before things really got roaring in the earlier decade.

You will find the past performance warning label beyond this page in this very annual letter. In fact, the well-intentioned phrase is so familiar it’s utility as a caution flag renders it as effective as the Surgeon General’s warning about butts. You know, coffin nails, cancer sticks, lung darts, cowboy killers.

John Bogle, RIP, introduced the retail masses to index investing and his Vanguard 500 Fund in 1976, conveniently shortly after the 1973-1974 bear market decimated investors. Incidentally, the first index fund was established by Wells Fargo in 1971. I bet you don’t know who created the earlier iteration, which was only for institutional investor purchase. None other than William Fouse and John McQuown. Who? Exactly – I had to look it up. Jack Bogle, Father of Indexing, became as synonymous to passive investing as The Who is to British invasions.

Bogle launched Vanguard in May 1975 and within months his Vanguard 500 Index Fund set sail. Today, Vanguard captains more than \$10 trillion. Captaining is probably the wrong term when it comes to passive investing. Joining Vanguard in the gathering of mountains of passively invested assets are BlackRock, State Street, Fidelity, J.P. Morgan, Invesco, Franklin Templeton, and, well, it seems like everybody. The largest mutual funds are Vanguard Total Stock Market *Index* Fund Admiral Shares (there are more share classes), Vanguard 500 *Index* Fund Admiral Shares (ditto), Vanguard Total International Stock *Index* Fund Admiral Shares (sigh), Fidelity 500 *Index* Fund, and the list goes on. Nary an actively managed fund to be found among the heavyweights.

Exchange Traded Funds (ETFs) were created in 1993, the brainchild of State Street and the American Stock Exchange. This annual letter being adequately long, we’ll spare you the nuances between mutual funds and ETFs. Know, however, they are kissing cousins. The first ETF on the scene was, drumroll, the S&P 500 ETF Trust, nicknamed the SPDR, or “spider” for short. Cute, especially for marketing, past performance not indicative and all. The largest ETFs today are, you guessed it, SPDR S&P 500 ETF Trust (first and still the king), Vanguard S&P 500 ETF (one ring to rule them all, and all), iShares Core S&P 500 ETF, Vanguard Total Stock Market ETF, Invesco QQQ Trust Series I (the I suggesting more than one series), and more and more and more, nearly all sharing indexation as their *modus operandi*.

The S&P 500’s combined market capitalization was \$49.8 trillion at year-end 2024, call it \$50 trillion. Direct indexation by mutual funds and ETFs accounts for an estimated 26% of ownership, up from 6% a mere decade ago. Morningstar recently estimated that nearly half of the stock market is owned by passive

investors, and including “closet indexers,” those active investors who hug benchmarks like pythons, the total passive ownership including institutions is most likely two-thirds of stock market value and rising.

Vanguard, like everyone, includes the black-box past-performance-is-not-indicative jargon on everything they publish. But lo and behold, none other than index king Vanguard just published both a year-end outlook piece and a Capital Markets Model forecast concluding their investor base is likely in for a rude awakening (my words). By Vanguard’s math, U.S. stocks are forecast to return between 2.8% and 4.8% per year over the next decade. Over the next 30 years, their forecast “improves” to expected returns of 4.7% to 6.7%. Kudos to Vanguard for the willingness to say it out loud (assuming anyone reads investment letters). In their words,

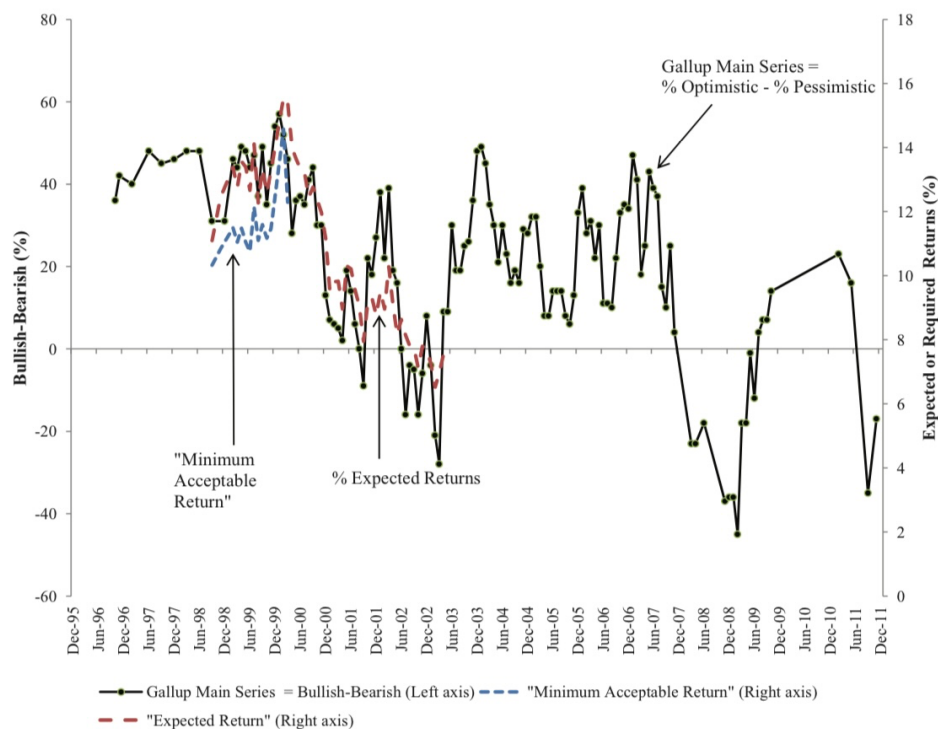
***Stretched valuations: A long-term hurdle:** Here is the catch: Replicating the past decade’s stellar returns is not an easy feat—it would require unprecedented earnings growth or historically high valuations. But the time horizon matters. Over the short term, our analysis suggests that if economic growth and earnings hold up, U.S. equities could sustain elevated valuations. However, as the horizon extends, growth and earnings impacts diminish, with valuations eventually dominating returns as a “fundamental gravity.” – Vanguard economic and market outlook for 2025: Beyond the landing*

Vanguard quite literally has a valuation matrix measuring “Valuation percentile to fair value.” The dot for U.S. equities is, using literally again, at the 99th percentile, meaning a requisite fall of 49.5% to reach “fairly valued.”

What do you suppose the survey results would be if Vanguard polled its customers, the ones piled heavily into the S&P 500, about their return expectations over the coming decade and three decades? I can predict with a high degree of conviction that it’s not 2.8% to 4.8% over the coming ten years or 4.7% to 6.7% over the next thirty!

The Vanguard holder of its index funds wouldn’t be at fault for ebullience and overoptimism at a secular market peak. Human nature being what it is, investors extrapolate past returns as the basis for expectations of future returns. Investors are most bullish at stock market peaks. Not only are investors likewise most bearish at troughs but their ranks are severely thinned.

Numerous surveys of both retail and professional investors in late 1999 and early 2000 concluded stocks would compound over the coming decade at annualized rates of return ranging from 16% to 20%. Below is a chart from an academic paper by two Harvard researchers, Greenwood and Schleifer, who examined six surveys of investor expectations. While a bit busy, Gallup surveys of investors between 1995 and 2011 revealed 16% expectations of both expected and minimum acceptable returns at the taking of their 1999 poll. That was the peak. The S&P 500 had compounded at a high-teens annual rate for the prior 17 years. Of course, their expectations were ahead of the coming reality. The index posted a total return loss over the next ten years and returned 7.7% over a quarter century. By the market secular low in 2002, after the index had declined 49% in price, future expectations were for a 6% annual return. Investing in the rear-view mirror.



Source: Gallup Surveys; Greenwood and Schleifer – *Expectations of Returns and Expected Returns 2014*

Three years ago, this letter urged professional and individual investors alike to examine what drove stock prices to dangerously expensive levels over the prior decade. It challenged them to make assumptions about five variables impacting stock prices, whether an index or an individual stock. By Semper's reasoning, the S&P 500 was poised to underwhelm over the coming decade and beyond.

The warning appeared timely as the index lost 18.1% 2022. A recovery in 2023 brought the index back to a little higher than where it began at the outset of 2022. A 25% jaunt higher last year brings the three-year annual return to 8.9% from what we believed was a secular peak in 2021. We still do. When measured three years ago, the S&P had compounded over the prior decade at 16.6%. The trailing ten-year return is now 13.1%. We expect the ten-year trailing return series to drift further downward. So does Vanguard.

Five factors combine to determine total investment returns in common stocks. Five:

- Dollar sales growth
- Changes in profit margins
- Changes in the multiple paid to earnings
- Changes in shares outstanding
- Dividend yields

The multiplicative and additive interplay among these five factors of investment return is useful for assessing attribution of past returns. Their interplay is equally useful in helping project future returns. Discounted-cash-flow analysis gets the investor to the same place. I find spending time analyzing impacts to and sources of sales growth and how and why profit margins changed or may change far more meaningful than debating a terminal growth rate beginning a decade or more from now or considering beta as a component of measuring the cost of equity capital.

The future direction and rate of change of the five factors is critically important at secular peaks and troughs. It's equally essential in the analysis and valuation of businesses. Most investors use past investment returns and extrapolate them as expected. Allocations to, and ownership of, stocks are highest at secular peaks and lowest at troughs. The extremes are wild. Spend too little or no time at all thinking through the factors and, well, good luck. The 1999-era investor expecting 16% or more returns would have relied on impossibilities among our five factors in justifying their expectations. Today's investor expecting 16% or 13% or even the Ibbotson 10.5% is certainly entitled to their belief. However, plug any combination of expectations for our factors into the formula and see what you come up with. Unprecedentedly high profit margins or multiples to earnings are not impossible. Nor would be high sales growth, although it would likely be a byproduct of inflation. Companies are no less generous in giving shares to insiders. High stock prices inhibit the ability to materially shrink shares outstanding. The formerly capital-lite tech giants are generally now capital heavy. We don't expect much in the way of share count reduction, although we fully expect ongoing materially large portions of operating cash flows to be spent on share repurchases.

The balance of this section updates our five-factor analysis from the 2021 letter. Ongoing feedback regarding our work on this subject is quite positive, with numerous requests that it be regularly updated. We'll look at which of the five investing factors contributed to gains in 2024 for the S&P 500 and for its Magnificent Seven drivers of return. The impact of these seven stocks on the index has been profound. The five factors do not align very well for the index and some, at least, of the large tech bellwethers. We'll also look at Costco as an example outside the Mag 7 of extreme valuations at the top of the capitalization-weighted U.S. stock market.

Maths

The total return from common stocks, whether the entire market, an index or an individual stock, derives from our five factors but begins by breaking return down into three base components – growth in earnings per share, change in the P/E multiple, and earnings from dividends. Total return is easily calculated by multiplying the change in EPS by multiple growth and adding the dividend yield:

$$\text{Total Return} = (\text{EPS Growth} \times \text{Change in P/E Multiple}) + \text{Dividend Yield}$$

Growth in earnings per share can be further derived from change in the net margin and change in sales per share:

$$\text{EPS Growth} = \text{Sales Per Share Growth} * \text{Margin Growth}$$

Too little consideration is applied to an understanding of how a change in shares outstanding impacts return. Specifically, how much sales growth in dollar terms is diluted from an accreted share count or increased thanks to a reduction in shares outstanding? In the analysis below, growth over a time period is not simply a compound figure but a measure of the rate of dilution or accretion. We've received *lots* of questions asking for clarity on how the dilution factor is calculated. The other factors besides dividend yield are simply the rate of growth from the beginning of a time period to the terminal point. With the share count, any increase in shares outstanding is dilutive and harms return. A reduction in the share count is accretive to return (we are leaving out whether the price paid for shares or received by the company are deviant from intrinsic value). For those reconciling or following the math, note for "Growth %" when measuring change in the share count, for that one figure you are really measuring annual dilution or ownership increase (a reduction in share count proportionally increases the remaining shareholders' ownership interests):

$$\text{Sales Per Share Growth} = \text{Dollar Sales Growth} / \text{Share Count Growth}$$

As a quick illustration for calculating the return from changes in share count, if a company has 100 shares outstanding and grows the count to 125, the change is obviously 25%. However, the original owners of the 100 shares no longer own 100% of the company but 80% making their dilution 20%. The 20% is a reduction of return over time. Conversely, if the share count drops from 100 to 75, that's a 25% shrink but an increase in ownership of 33% for continuing shareholders. The 33% is added to return over time as a compound annual return increase over whatever time period is involved in increasing ownership by 33%. Over ten years, 2.919% would be the compound annual "growth rate" accounting for the 33% ownership increase due to the reduction in share count.

Calculation of annual price return (PR below or Price Return) broken down by the full set of variables is a multiplicative function of each component. Formulaically, the amount of "1" is added to the percent growth rate for each component, with the amount of "1" then subtracted after the multiplicative function to arrive at a percent return.

$$((1 + EPS) * (1 + PE)) - 1 = PR$$

$$((1 + SS) * (1 + MG) * (1 + PE)) - 1 = PR$$

$$\left(\frac{1 + DS}{1 + SC} * (1 + MG) * (1 + PE) \right) - 1 = PR$$

And, for Total Return (TR), we add the Dividend Yield (DY) to Price Return (PR):

$$\left(\frac{1 + DS}{1 + SC} * (1 + MG) * (1 + PE) \right) - 1 + DY = TR$$

For the above formulas, the variables are:

SS = Sales per Share Growth

DS = Dollar Sales Growth

MG = Margin Growth

PE = PE Multiple Growth

SC = Share Count Growth

EPS = Earnings Per Share Growth

DY = % Dividend Yield

PR = % Price Return

TR = % Total Return

Growth rates *approximate* the proportion of return attributed to each factor but are not precisely mathematically correct. A proper attribution of return from the factors would allow for an *additive* function of each variable to reconcile to the multiplicative derivation applied to each growth factor. Attribution numbers presented in the 2021 letter were largely correct but require distribution for precision. For ease of math and use for those interested in utilizing the five factors, we are content with the math being roughly right. As it is, the growth factor for each variable found in the bottom row in each table correlates closely to total return.

Five Factors at Work – Past, Present and Future S&P 500 Scenarios

For the ten years through 2021, the S&P 500 earned a 16.6% annual total return. Repeating this over the subsequent decade would be nearly *impossible* (barring a hyperinflation). We are on record suggesting the decade following 2021 would earn far less than its very long-run 10.5%, interspersed with drawdowns like 2022's, and that decade has met our forecast so far.

10-Year S&P 500 Return 2011 to 2021

10 Years 2011-2021	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	96.44	29.12	1,052.83	9,531.2	9,052.93	9.2%	13.0	2.3%	1,257.60	
12/31/2021	208.21	63.12	1,566.80	13,266.5	8,467.26	13.3%	22.9	1.3%	4,766.18	
Growth %	115.9%	116.8%	48.8%	39.2%	6.9%	45.1%	75.5%	-42.8%	279.0%	362.6%
Annual Avg	8.0%	8.0%	4.1%	3.4%	0.7%	3.8%	5.8%	2.3%	14.3%	16.6%

The two largest return drivers over the decade were expansion in the P/E multiple from 13.0x to 22.9x and in the profit margin from 9.2% to 13.3%. These two factors contributed the majority of the return earned by the index. Dollar sales compounded by 3.4%, dividends added 2.3% and a net reduction in the share count added 0.7% to return. Remember, the derivation of return is a multiplicative function of the table's first four factors (shown in bold, above) with the (bolded) dividend yield additive. Simply totaling the percent change in each component gets close to the total return but is not additively precise (meaning you can't simply add up the annual average change for each of the five factors).

The investor at year-end 2021 expecting anything near the prior decade's returns required continued expansion in multiples and margins or outsized growth in sales despite sales growth for the past two decades averaging less than 4% annually in dollars.

Revisiting 2022 when the S&P 500 lost 18.1%, sales per share growing by 11.9% didn't help much. The decline was driven by profit margins declining 15.5% from 13.3% to 11.2% and the P/E multiple contracting 14.8% from 22.9x to 19.5x.

1-Year S&P 500 Return 2022

1 Year 2022	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	208.21	63.12	1,566.80	13,266.5	8,467.3	13.3%	22.9	1.3%	4,766.18	
12/31/2022	196.95	69.56	1,752.90	14,670.1	8,369.0	11.2%	19.5	1.8%	3,839.50	
Growth %	-5.4%	10.2%	11.9%	10.6%	1.2%	-15.5%	-14.8%	36.8%	-19.4%	-18.1%
Annual Avg	-5.4%	10.2%	11.9%	10.6%	1.2%	-15.5%	-14.8%	1.3%	-19.4%	-18.1%

The index recovered with back-to-back mid-20s total returns of 26.3% in 2023 and 25.0% in 2024 with more than half of the return fueled via a 29.3% expansion in the P/E multiple to a nosebleed 25.2x. Dollar sales grew 13.8% over the two years, or 6.7% per year. The share count rose modestly, harming return by 0.6% annually while dividends kicked in 1.9% of return per year.

2-Year S&P 500 Return 2024

2 Years 2022-2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2022	196.95	69.56	1,752.90	14,670.1	8,369.04	11.2%	19.5	1.8%	3,839.50	
12/31/2024	233.28*	74.83	1,972.11*	16,699.6*	8,467.89	11.8%	25.2	1.3%	5,881.63	
Growth %	18.4%	7.6%	12.5%	13.8%	-1.2%	5.3%	29.3%	-29.8%	53.2%	57.9%
Annual Avg	8.8%	3.7%	6.1%	6.7%	-0.6%	2.6%	13.7%	1.8%	23.8%	25.6%

*Estimate

Just as a one-year loss of 18.1% does not constitute a secular bear market nor does a robust two-year recovery advance constitute a bull, though recent history governs emotion. Earning 57.9% cumulatively, or 25.6% annually for two years renders 2022's decline but a distant memory. Combining the three years from Semper's defined 2021 secular peak, the S&P 500 produced an 8.9% compound annual total return. Not bad, but not Ibbotson, and to our thinking it means the secular bear has plenty of mountainside to slash down.

Deciphering the sources of return over the last three years yields some interesting observations. Begin with the building block, or better, the base for any assessment of investment return – sales growth. Excluding the 2020 pandemic year and measuring growth from 2021's secular peak, sales dollars grew 25.9%, or 8.0% per year on average. It turns out that 8.0% annual sales growth produced most of the 8.9% annual total return over the last three years. As the inflation rate moderated each year, so did the rate of sales growth.

Through 2024, the index investor enjoyed the highest rate of four-year growth in sales per share on which we have data. Per-share sales declined 3.7% in 2020's pandemic slowdown but the snapback over the next four years was dramatic and helped by inflation running hotter than at any time since the 1970s. Sales per share climbed 15.0% in 2021, 11.9% in 2022, 6.8% in 2023 and likely 5.3% by my estimate in 2024. While dollar sales and sales per share only grew annually at 3.4% and 4.1% respectively for the decade ended 2021, dollar sales over the most recent four years 2021-2024 grew 44.8% cumulatively, 9.7% on an annualized basis. These figures are calculated over the *four* years following 2020's pandemic-induced sales and GDP decline.

Inflation increases the costs of doing business which often harms profitability. The last three years are no exception. Whereas sales contributed 8% to investment return, profit margins declined 11% from 13.3% to 11.8%, harming return by 3.8% per year. A declining rate of inflation allowed for a rise in the margin from 11.2% to 11.8% over the past two years, but from 2021 margins are still down.

Surprising to most, the share count is on the rise over the past 3 ½ years. For the three years ended 2024, shares outstanding are essentially unchanged, meaning dollar sales growth and per-share sales growth match. Oh, the dollars spent on repurchases. You'd think fewer shares would be outstanding... In the hypothetical world of unchanging multiples and margins, the investor will earn sales growth and dividends. In most times sales growth will exceed dividend yields. Generally, the higher the inflation rate, the higher the sales growth.

Dividends contributed 1.7% annually to the index's 8.9% annual total return over the last three years despite the dividend yield beginning and ending at 1.3%. How in the world of math does this happen? Are we doing cha math these days? A combination of rising dividends and for much of the three years lower stock prices, dividend yields over most of the period were north of 1.3%. The dividend yield was 1.8% and 1.5% at year-ends 2022 and 2023 respectively. Prices relative to sales and dividends were both at matching near-record peaks in 2021 and 2024. The runup in stock prices by year-end 2024 has fundamental valuations at secular-peak levels. Again, dividend yields are a measurement at a point in time. The yield earned over time equates to dividends paid divided by *average* prices during the period in

question. The stated dividend yields at successive peaks are low while the dividend yields earned in the interim are higher than the stated yields at the peaks.

2021-2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	208.21	63.12	1,566.80	13,266.5	8,467.26	13.3%	22.9	1.3%	4,766.18	
12/31/2024*	233.28	74.83	1,972.11	16,699.6	8,467.89	11.8%	25.2	1.3%	5,881.63	
Growth %	12.0%	18.6%	25.9%	25.9%	0.0%	-11.0%	10.1%	-3.9%	23.4%	29.3%
Annual Avg	3.9%	5.8%	8.0%	8.0%	0.0%	-3.8%	3.3%	1.7%	7.3%	8.9%

*Estimate

2021 and 2024 in Perspective

The 1982-to-2000 bull market culminated with the tech bubble and its subsequent popping. At the late 1990s and early 2000 peak, stocks were priced to produce abysmal returns for a long time. They did. If we are correct about 2021 or even 2024 being a secular peak, investors are again poised to experience something akin to the decade and quarter century post-1999.

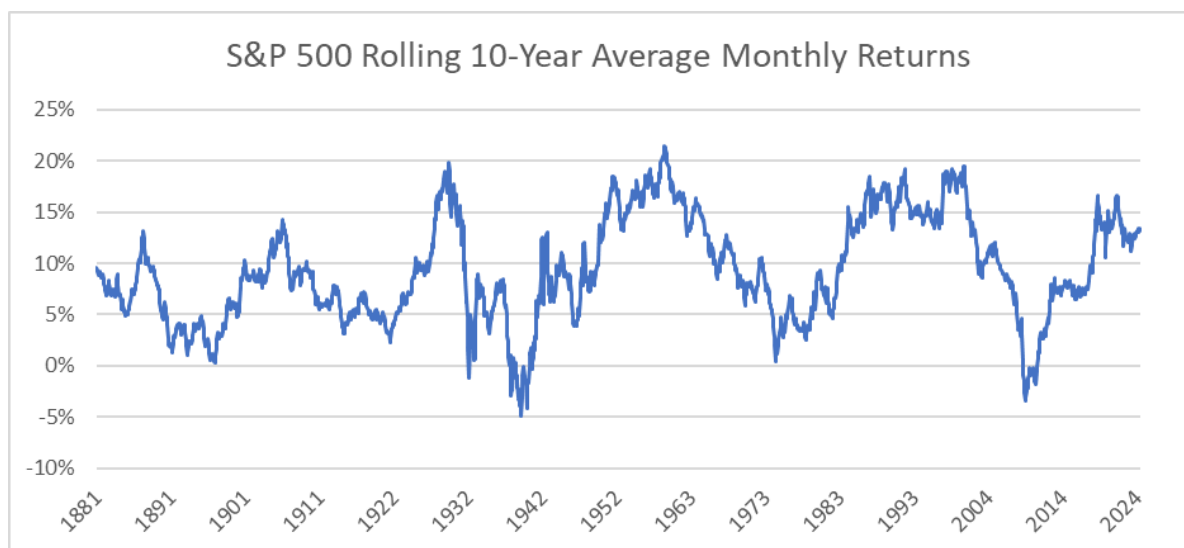
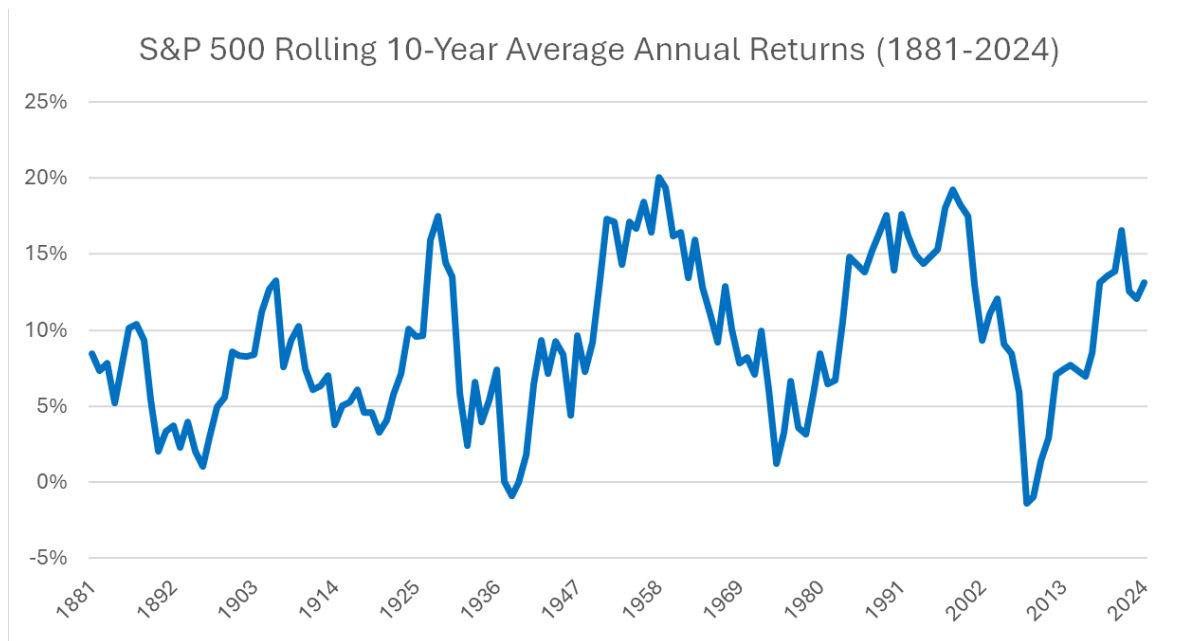
The decade ending in 2021 resembles the decade that culminated in 1999 regarding fundamental valuations. Fundamentals are likewise stretched at year-end 2024. The P/E multiple in the decade to 1999 doubled from 14.5x to 28.4x. The margin grew 49% or 4.1% per year while dollar sales clipped ahead by 6.0% annually. Dividends kicked in 2.9% on average. The only negative factor was 25% growth in shares outstanding, diluting non-insider owners by 20%, a harmful 2.2% net annual dilution. In total, the index investor earned 18.2% annually through 1999. Irrationally high expectations for ongoing gains in the subsequent decade were met with a 9.1% cumulative loss, or negative 0.9% annualized.

10 Years	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/1989	24.32	11.45	452.90	3,033.4	6,697.81	5.4%	14.5	3.2%	353.40	
12/31/1999	51.68	16.20	646.95	5,422.6	8,381.82	8.0%	28.4	1.1%	1,469.25	
Growth %	112.5%	41.5%	42.8%	78.8%	-20.1%	48.8%	95.6%	-66.0%	315.7%	432.9%
Annual Avg	7.8%	3.5%	3.6%	6.0%	-2.2%	4.1%	6.9%	2.9%	15.3%	18.2%

10 Years	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/1999	51.68	16.20	646.95	5,422.6	8,381.82	8.0%	28.4	1.1%	1,469.25	
12/31/2009	56.86	22.64	908.40	8,087.3	8,902.83	6.3%	19.6	2.0%	1,115.10	
Growth %	10.0%	39.8%	40.4%	49.1%	-5.9%	-21.6%	-31.0%	84.1%	-24.1%	-9.1%
Annual Avg	1.0%	3.4%	3.5%	4.1%	-0.6%	-2.4%	-3.6%	1.8%	-2.7%	-0.9%

Margins and multiples collapsed. Stocks ended the subsequent decade ending 2009 trading at 19.6x earnings on a 6.3% profit margin. Sales dollars grew a respectable 4.1% on average per year while dividends kicked in 1.8%. Stock prices were simply sky high at the year-end 1999 peak.

Measuring returns over rolling ten-year periods is a useful exercise revealing mean reverting characteristics. Ten-year periods of returns outpacing business fundamentals are followed by much weaker ten-year intervals and vice versa. If we call Ibbotson's 10.5% long-term return reasonable, the pull from extremes is obvious:



Source: Robert Shiller, *Semper Augustus*

Decade-long returns only exceeded 15% on four occasions. The late 1920s and late 1990s are examples. Washouts are equally telling. There are precisely five yearly intervals when trailing ten-year returns were zero or negative. When? 1937 (0.0%), 1938 (-0.9%) and 1939 (-0.1%), which followed 1929's stock market bubble and the Great Depression when stocks declined 89% peak to trough and only again in 2008 (-1.4%) and 2009 (-1.0%), the Global Financial Crisis which followed the tech bubble ten years prior. The S&P 500 troughed 57% below its 2000 peak nine years later. That's despite eight years of economic growth in the interim. The pattern is simple: Historically low 10-year returns tend to follow historically high valuation levels.

The highest ten-year annual return was oddly recorded in 1958 at 20.1%. The market was far from a secular peak, but the decade of terrific returns followed a quarter century that saw stocks remain far below the 1929 peak despite underlying business growth following the Great Depression. Ultimately stocks caught up with fundamentals and by 1966 were back at a secular peak.

While our Secular Peaks and Troughs begins with 1929's peak, there is no doubt that 1906 was likewise a secular top. Stocks returned 13.0% annually for the prior ten years (and following the Panic of 1893). The secular peak in 1906 was followed by 1907's Panic and Depression, which led to the subsequent decade of stocks averaging 4.5% per year. By 1921, a trough, the index rolling ten-year was 2.3%, setting up the Roaring 1920s culminating with 1929's secular peak.

The Song Remains the Same

Let's now apply our five factors prospectively to a range of decade-long scenarios ranging from very bullish to very bearish. We'll also extend the time horizon beyond the next ten years.

Begin with a scenario holding the profit margin and P/E multiple constant at 2024 year-end levels. Presume dollar sales grow 3.4% annually and a 0.7% annual "benefit" from a declining share count, both matching the decade ended 2021. Note that the share count was unchanged over the last 3 years through 2024 (and rose slightly over 3 ½ years) but we'll assume the reduction seen in the decade ended 2021. By holding the profit margin at 11.8% and an extremely rich (and unlikely) 25.2x multiple constant, the index investor gets 4.1% sales growth per share and 1.4% from dividends holding the dividend payout constant. Put it all together and the index returns an underwhelming 5.5% per year. The armchair modeler can use any inputs they choose in any of these scenarios. I'd suggest that a higher rate of inflation would likely correlate with higher growth in sales but lower profit margins. The years 2021 through 2024 *did* see more rapid sales growth courtesy a snap back from a revenue hit in 2020 but also due to high inflation, where higher costs of goods sold and labor expense were passed through to the customer. Offsetting the "benefit" from high sales growth was the downside that comes with inflation – the crushing of profit margins.

10-Year at Level Margin and P/E	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2024	233.28*	74.83	1,972.11*	16,699.6*	8,467.89	11.8%	25.2	1.3%	5,881.63	
12/31/2034	348.60	111.82	2,946.99	23,329.8	7,916.50	11.8%	25.2	1.5%	8,789.11	
Growth %	49.4%	49.4%	49.4%	39.7%	7.0%	0.0%	0.0%	17.9%	49.4%	70.6%
Annual Avg	4.1%	4.1%	4.1%	3.4%	0.7%	0.0%	0.0%	1.4%	4.1%	5.5%
*Estimate										

Bargain

With an ongoing presumption 2021 was a secular peak, let's assume the margin fully recovers to 2021's 13.3% record but the P/E contracts from today's 25.2x all the way back down to 2021's 22.9x, still rarified air. As with the prior scenario, running sales growth and repurchases at matching rates for the decade ended 2021 and this "bull case" produces a similar 5.7% annual return to the prior scenario. These identical assumptions in last year's letter suggested a higher 7.4% annual return, lower today of course given 2024's 25.0% total return resulting in the current sky-high 25.2x P/E.

10 Years at 2021 Margin/Multiple	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2024	233.28*	74.83	1,972.11*	16,699.6*	8,467.89	11.8%	25.2	1.3%	5,881.63	
12/31/2034	391.95	125.73	2,946.99	23,329.8	7,916.50	13.3%	22.9	1.4%	8,975.64	
Growth %	68.0%	68.0%	49.4%	39.7%	7.0%	12.4%	-9.2%	10.1%	52.6%	73.3%
Annual Avg	5.3%	5.3%	4.1%	3.4%	0.7%	1.2%	-1.0%	1.3%	4.3%	5.7%
*Estimate										

Returning the profit margin to its 2021 peak of 13.3% is plausible if inflation is muted and today's high-margin tech leaders in particular both grow and sustain high profitability on sales. If rising capital intensity continues however, economics suggests returns will decline toward the cost of capital. Achieving returns closer to the "long-term" 10.5% requires some combination of a record profit margin, a multiple north of 22.9x, and/or more sales growth per share than seen over the past two decades absent higher inflation. "Not bloody likely!" as Seinfeld and the British say.

Empty Glass

How about a little ice water for that empty glass? Sometimes, new eras aren't eras. Contemplate if you dare a more bearish scenario where both margins and multiples contract. Gasp. Suppose the profit margin declines from 11.8% to 8.0%, a level considered very high by historical standards, and which would essentially reverse the benefit of historically low interest rates (the ability for companies to borrow heavily and pay little in interest expense for the privilege). Inflation would be a culprit in tandem. Imagine at the same time the P/E multiple collapses all the way back to 15x, its average over the last century. Investors tend not to like earnings misses on the downside and really don't like big declines in margins.

Inflation running durably hotter than Bernanke's prescribed 2% target would "help" sales growth so let's assume 6% top-line growth, matching the decade ended 1999, and apart from the last four inflationary years coming out of the pandemic, roughly 2.5% per year *higher* sales growth than the experience since the turn of the century. If inflation averages 4% over the coming decade, growth in annual sales at 2% above inflation seems reasonable. Margins are most assured to decline in a higher inflationary period – it's tough to pass along higher costs and the corporate world has a debt mountain maturing that will require retiring or refinancing at what would be higher interest rates. Lower margins also leave less for share repurchases so hold share count flat.

Running these identical assumptions a year ago produced essentially a zero return for a decade. But last year's 25% index total return reduces zero to subzero. More precisely the investor loses 14.2% cumulatively or 1.5% per year, on average, some years being better, some worse. Incidentally, over much of the past century, if offered 6% annual revenue growth for a decade and a terminal 15x multiple on an 8% profit margin, most would have taken it in a heartbeat.

8% Margin and 15x Multiple	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2024	233.28*	74.83	1,972.11*	16,699.6*	8,467.89	11.8%	25.2	1.3%	5,881.63	
12/31/2034	282.54	90.63	3,531.75	29,906.5	8,467.89	8.0%	15.0	2.1%	4,238.10	
Growth %	21.1%	21.1%	79.1%	79.1%	0.0%	-32.4%	-40.5%	68.1%	-27.9%	-14.2%
Annual Avg	1.9%	1.9%	6.0%	6.0%	0.0%	-3.8%	-5.1%	1.7%	-3.2%	-1.5%

*Estimate

The Song is Over

Suppose investors in the capitalization-weighted U.S. stock market decide they don't love stocks the way they did in 2021 or 2024? Perhaps profit margins falling to 8% from 11.8% today and 13.3% at 2021's record. Maybe paying 15x earnings, to repeat the average over time, is too much. Maybe higher inflation offers higher interest rates, the risk-free back in fashion. Pin the terminal multiple at 10x against an 8% margin, 6.0% sales growth, no benefit from net share repurchases (but rather modest dilution as companies raise needed capital) and thanks to falling prices the highest dividend yield in a decade at

3.2%. In this grisly, unimaginable, impossible scenario the investor loses 42.5% over a decade, bleeding out by 5.4% per year. The upshot to being mauled is that the decade post-2034 tees up nicely for the reemergent bulls.

8% Margin and 10x Multiple	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2024	233.28*	74.83	1,972.11*	16,699.6*	8,467.89	11.8%	25.2	1.3%	5,881.63	
12/31/2034	266.13	85.37	3,326.67	29,906.5	8,989.90	8.0%	10.0	3.2%	2,661.34	
Growth %	14.1%	14.1%	68.7%	79.1%	-5.8%	-32.4%	-60.3%	152.1%	-54.8%	-42.5%
Annual Avg	1.3%	1.3%	5.4%	6.0%	-0.6%	-3.8%	-8.8%	2.2%	-7.6%	-5.4%
*Estimate										

So a summary of the foregoing scenarios looks something like the following table. Readers can probability-weight the scenarios as they see fit, but a simple average approach indicates expectations should be no higher than 1.1% per year for the next decade (with the Semper bias on the downside of that). And, with the (theoretical) “risk free” 10-year U.S. Treasury rate at about quadruple the level (or more), one might even query the purpose of investing in a broad index. Selection matters. And don’t forget, these are compounded returns below, making the potential mediocrity or wealth destruction that much more painful.

Bargain	The Song Remains the Same	Empty Glass	The Song is Over	Simple Avg
5.7%	5.5%	(1.5%)	(5.4%)	1.1%

Baba O’Riley

Most secular bear markets have a proper name. Some are so long and painful the name is never uttered. Last year’s letter presented a scenario where valuations returned to 1982 levels – a depressed (depressing?) 8x multiple capitalized on a similarly depressed 4% profit margin. A wasteland. That’s 32% of sales incidentally. One would only contemplate profits declining to that degree from today’s 11.8% in the event of very high inflation and deep recessions like we saw through the 1970s culminating in the early 1980s. Presuming high inflation, we ran annual sales growth at 8.9%. The outcome using these variables from year-end 2024 over the next 13.5 years yields a 50.4% cumulative total return loss, or negative 5.1% per year (the secular bear ran 16.5 years from 1966 to 1982, and we assume 2021 was a secular peak).

The likelihood of such a collapse in profit margins is remote, so we will spare you that grisly table. It’s a teenage wasteland. Instead, the possibility of the margin falling to 8% is in the realm, as would be an 8x multiple to earnings. That gets the price-to-sales relationship to 64%. Coupled with an inflationary high 8.9% growth in sales, the total return is essentially flat. The investor loses a cumulative 2.6%, or -0.2% per year, with a 32.2% price decline mostly offset by an annual 2.6% from dividends. Note the dividend yield in June 2038 is triple today’s despite holding the payout rate flat as a percentage of earnings. Not benevolence, just lower prices relative to earnings and dividends.

A scenario like this where the investor suffers a 32.2% price decline over 13 ½ or 16 ½ years is in the realm of possibilities. The Dow Jones Industrials declined from 1,000 in 1966 to 777 in 1982. And the Dow was nearly 80% lower by price as many as 13 years after its 1929 high, and required 25 years to exceed that high in 1954. Japan’s Nikkei only last year regained its 1989 high, a span of 35 years. At today’s writing it’s back below the 1989 high. The exodus is here.

13.5 Years 8% Margin 8x Multiple	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2024	233.28	74.83	1,972.11	16,699.6	8,467.89	11.8%	25.2	1.3%	5,881.63	
6/30/2038	498.77	159.99	6,234.58	52,793.8	8,467.89	8.0%	8.0	4.0%	3,990.13	
Growth %	113.8%	113.8%	216.1%	216.1%	0.0%	-32.4%	-68.3%	215.2%	-32.2%	-2.6%
Annual Avg	5.8%	5.8%	8.9%	8.9%	0.0%	-2.9%	-8.2%	2.6%	-2.8%	-0.2%
*Estimate										

Before moving to the Magnificent 7 and the enormous impact of a small group of stocks on the S&P 500 over the most recent ten to thirteen or so years, let's again update the long-term return series that kicked off this exercise in cautioning care at secular peaks. Recall the 18.2% earned by the S&P over the decade ended 1999 that was followed by a decade where index investors *lost* 0.9% per year. Now a full quarter century removed from the early 2000 secular peak, the long-run annual return from December 31, 1999, is now all of 7.7% per year (up from 7.0% a year ago and 6.3% as of year-end 2022). Investing \$1 million grows to just shy of \$6.4 million at 7.7% over a quarter century. It grows to \$12.1 million at Ibbotson's 10.5%. Secular peaks produce bad outcomes for those invested in the *assets comprising the bubble*.

25 Years	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/1999	51.68	16.20	646.95	5,422.6	8,381.82	8.0%	28.4	1.1%	1,469.25	
12/31/2024	233.28	74.83	1,972.11	16,699.6	8,467.89	11.8%	25.2	1.3%	5,881.63	
Growth %	351.4%	361.9%	204.8%	208.0%	-1.0%	48.1%	-11.3%	15.4%	300.3%	538.9%
Annual Avg	6.2%	6.3%	4.6%	4.6%	0.0%	1.6%	-0.5%	2.0%	5.7%	7.7%
*Estimate										

We believed the late 1990s was a bubble and a secular peak for the S&P 500, then dominated by a small handful of tech stocks. Semper was a huge beneficiary of recognizing the bubble and having the resolve to hew to value. We believe today is also a bubble and a secular peak for the S&P 500, dominated by a small handful of tech stocks.

Go back to the investors surveyed expecting 16% to 20% yearly S&P 500 returns in 1999. Suppose you had the power to grant them a quarter-century *guarantee* of:

- low inflation
- 4.6% annual sales growth, more than a tripling
- a 48% *increase* in the profit margin from a then record 8.0% to 11.8%
- No more dilution (the share count rose 25.1% in the prior decade)
- A 2% average dividend yield, nearly double the yield in 1999

You would think anybody would leap at that guarantee in a heartbeat, taking the 16%+ expectation to the bank. Even if you said, "Look, the tradeoff to all of the above is you will see a decline in the market P/E multiple from 28.4x to 25.2x." Over 25 times earnings? That's historically nosebleed elevation. But when you put the math together with our five factors, instead of earning the expected sweet sixteen, the index investor got 7.7%. Just a bit outside. RIP Ueck. And 7.7% was as good as it's been for the entire quarter century, thank you 2023 and 2024.

Today's investors expecting 16%, or even the long-term 10.5%, stand to wind up as disappointed as the 1999 crop. Fill in your own five blanks. The coming decade and quarter century stand to crush investor expectations, and I don't mean crush in a good way. But don't take my word for it. Take Vanguard's. Read on as to why the magnificent tailwind that helped create the secular peak at which the index is perched is likely to shift in the coming decade and quarter century.

WHEN SEVEN IS GREATER THAN FOUR NINETY-THREE

“Concentration is the secret of strength.” – Ralph Waldo Emerson

“I had a vivid dream of the number seven, just a giant seven... and when I woke up, it was 7:00... so I get up and decide to go to the track, because I like to play the ponies... and I get a cab, and the cab pulls up, and it's number seven... so I get to the track and I ask what I owe, and it was \$7.77... I go in through gate seven and the only booth open is the 7th. I look at the board and in the 7th race there's a horse named Lucky Number 7, and his odds are 77/1. So, I put \$700 on him... and believe it not... he came in 7th.” – Norm MacDonald



1955 Vanguard Standard Saloon

A very small handful of companies dominated the global economy in recent years. The stock market contribution of this same small handful of companies' publicly traded stocks has been even more dominant. Staggeringly so. Never has so much wealth been capitalized in such a small universe of companies. Mr. Market rewards business performance. Mr. Market also gets wild with the prices he quotes from time to time.

The seven companies comprising Apple, Microsoft, Google, Amazon and Facebook, Tesla and Nvidia have so thoroughly dominated as businesses and as stocks that financial pundits refer the collection as simply the Magnificent Seven. An evolution of acronyms preceded the naming of the Magnificents, with changes for dropouts (the original “N” in FANG), name changes (Google to Alphabet and Facebook to META) and addition due to size and success, Nvidia being the most recent addition, and my goodness how could it not.

We'll update our five-factor attribution to the Mag 7 as a group and each of its components. Unprecedented revenue and profit growth have been richly rewarded with stellar stock market performance. Growth in market capitalizations have the seven making up nearly 35% of the S&P 500, up from 8.6% in 2011. The market capitalizations are enormous, all seven exceeding \$1 trillion at year-end 2024, ranging from \$1.3 to \$3.8 trillion. The seven have a combined \$17.6 trillion valuation, compared with \$32.2 trillion for the 493 remaining of the S&P 500 less than magnificents.

The huge market capitalizations reflect varying combinations of large revenues, profits, profit margins, rates of growth, dominant competitive positions, expectations for more of the same and in some cases hype. The group trades at a wide valuation premium relative to the remainder of the S&P, but even more so against most everything – small cap, mid cap, value, international, emerging market. The are concentrated in technology so similarly are valued higher than non-tech-oriented sectors.

But valuation extremes are not limited to seven stocks. Passive flows to the capitalization-weighted S&P 500 but also stellar business performance combined to where a group of fewer than perhaps 100 stocks trade at valuations often portending subsequent poor investment returns.

Instead of beginning with our examination of the Mag 7, let's begin with a look at one of the very best companies we've encountered, Costco.

Costco

Semper invested in Costco on February 6, 2003, at \$28.95 per share. The membership retailer opened its first location in Seattle in 1983, merged with Price Club in 1993 (which was founded in 1976) and when we invested in the stock operated roughly 350 warehouses with \$40 billion in sales earning a 1.8% profit margin.

I won't belabor the virtues of Costco in this letter other than to say it's the way they behave for the benefit of customers, employees, communities, regulators and even suppliers (though that's often a tough one) that in combination rewards shareholders. The company keeps costs down and passes the savings on to its members. A large membership base and massive buying power, combined with a nonstop quest for efficiency, result in the lowest retail prices available in the world. The company opens 20-25 new locations annually and now operates nearly 900 warehouses, with over 600 in the U.S., another 109 in Canada, 41 in Mexico with the balance in Japan, the U.K., South Korea, Australia, Taiwan, China, Spain, France and one each in Sweden, New Zealand and Iceland. Yes, Reykjavik, Iceland, with a population of 390,000. The entire country signed up as members.

Semper paid an apparent 18.7x multiple to earnings when buying Costco in 2003. Stated returns on capital were around 13%. We knew a new warehouse requires about eight years to reach full profitability. Reason dictated that not quite half of warehouses were not yet mature. Therefore, Costco was far more profitable than their financial statements suggested. Today the proportion of mature (high-earning) warehouses is much higher. The cadence of new store opening is constant and thus systemwide profitability is more closely matched with the financial figures.

Over the last 21 $\frac{3}{4}$ years that we've been shareholders revenues grew 8.9% annually to \$254 billion, with the profit margin rising from 1.8% to 2.9%. Returns on capital now run well over 20%. Revenue growth comes derives from increasing square footage as new warehouses are added plus growth in sales per store, or sales per square foot of selling space. Costco opens roughly the same number of new warehouses annually, thus growth in total square footage ultimately slows and is now running about 2.5% annually where it was closer to 6% or more when we first invested.

Costco has always been disciplined about the cadence of opening new warehouses, generally opening 20 to 25 per year. Each new warehouse only requires so much capital, and at a point the company was earning more in profit than it could (or chose to) reinvest. Shortly after we invested in 2003, Costco initiated payment of a regular quarterly dividend. Over the subsequent two decades the regular dividend payout to shareholders averages about 25% of annual profits.

Share repurchases are de minimis. It makes no sense that if the cadence of new unit openings remains unchanged and if management doesn't heavily repurchase shares that the payout rate would remain at 25%. In a sneaky way it didn't. The majority of stores and land are owned, an oddity in retail. Cash on the balance sheet tends to run about twice the amount of debt. With no need for cash, and what has been an aversion to heavy share repurchases, in addition to regular dividends, management occasionally pays special dividends. We've earned five of these totaling \$44 per share from 2012 to 2023. Again, we paid \$28.95 for the stock. The annual regular dividend rate is presently \$4.64 per share.

Several years ago, I wrote about my largest investment mistakes, headlined with a complete sale of Ross Stores after making 2 $\frac{1}{2}$ times our money in a bear market only to watch the stock grow more than 20-fold after selling it. I could have just as easily written about periodically selling shares of Costco and not buying it for many years. The stock compounded at 19.7% annually over our 21 $\frac{3}{4}$ -year holding period. That's turning each \$1 million into \$50 million. By comparison, our stocks in aggregate earned 11.4% annually over 26 years, turning each \$1 million into \$16 million. Any Costco share sold in retrospect was

a monumental error of commission. But then, we didn't see the stock growing from an understated 18.7x multiple to today's 56.9x P/E. Yes, 56.9x. Behold Costco from 2003 to 2024 and where the returns came from.

Costco Total Return Attribution (2003 – 2024, 21 ¾ Years)

2003-2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
2/28/2003	1.55	0.00	88.21	40,226	456.0	1.8%	18.7	0.0%	28.95	
11/30/2024	17.08	9.64	584.08	258,805	443.1	2.9%	56.9	1.0%	971.88	
Growth %	1,003.9%	0	562.1%	543.4%	2.9%	66.7%	204.1%	0.0%	3,257.1%	4,898.0%
Annual Avg	11.7%	0.0%	9.1%	8.9%	0.1%	2.4%	5.2%	2.2%	17.5%	19.7%

One would assume that producing a 19.7% annual total return over more than two decades that Costco would be heralded among the magnificents. Nope. Why? The profit margin is a lowly 2.9%. Even though the company earns more than 30% on equity and nearly as much on capital, at 56.9x the \$430 billion market cap is relatively tiny compared to the Mag Sevens. Capitalizing a 2.9% margin at 56.9x equates to 165% of sales, very rich for a 2.9% margin. By contrast, the aggregate of the Mag 7 trades for 8.7 times sales. Oddly, the Mag 7 at a 33.1x P/E is less expensive than Costco. How do you make money owning Costco at today's valuation? You likely don't, at least for a long time.

With square footage now growing at roughly 2.5% per year, assuming total sales growth ranging from 6% to 7.5% is reasonable. The shareholder can count on modest margin improvement over time. Growing from 1.8% to 2.9% over more than two decades contributed 2.4% to annual total return. Thanks to special dividends combined with regular dividends, the shareholder earned 2.2% annually from payouts. Because of the high stock price, on today's \$4.64 regular dividend rate the yield is 0.5%. Adding \$5.00 in assumed annual special dividends (the last special was \$15.00 per share in December 2023) to the regular dividend boosts the yield to 0.99% (not rounded to tenths for effect). Lordy, the earnings yield is only 1.8%.

We will look at Apple with a similar lens, but given predictable revenue growth, a modestly expanding margin and miniscule dividend yield, prospects for the Costco shareholder over the next decade and beyond are grim. This is like Coca-Cola in 1998 or Microsoft in 2000. Where we predicted the Microsoft shareholder would lose money for 15 years in the Semper January 1, 2000 letter (they did), the stock 25 years from that point has finally clawed its way to a 10.3% annual return.

You can call the three decade-long scenarios for Costco below bearish, base and bullish. In each scenario, no share count change is assumed, either from repurchases or from dilution. The dividend payout rate (including special dividends) is held constant at 56.4% of earnings. Sales growth ranges from a bearish 6.0% to 6.5% and finally a bullish 7.5% per year. We have square footage growing from a 2.5% annual base, so the higher growth comes from same-store-sales growth, all at assumed sizable premiums to the inflation rate. If inflation runs very hot, sales growth at Costco will be higher, but the investor's real return will not improve. Finally, we get to price, which matters. In no scenario, other than a hyperinflation, is assuming a great company like Costco deserving of, or will maintain, a 56.9x multiple to earnings, let alone see the multiple durably grow higher. Systemwide sales growth is now too low to justify the valuation. In the short term all bets are off, but in the long term, Mr. Market will exact rationality on price.

The bearish case projects 6% annual revenue growth and a 20x terminal P/E multiple on a margin only growing to 3.0% from 2.9%. By year-end 2034 the investor loses 21.3% cumulatively or 2.4% per year.

Costco Five-Year Bear Case: 6.0% Sales Growth, 3.0% Margin, 20x Multiple

6.0% Sales, 3.0% Margin and 20x Multiple	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
11/30/2024	17.08	9.64	584.08	258,805	443.1	2.9%	56.9	1.0%	971.88	
11/30/2034	31.38	17.71	1,045.99	463,480	443.1	3.0%	20.0	2.8%	627.60	
Growth %	83.7%	83.7%	79.1%	79.1%	0.0%	2.6%	-64.8%	184.5%	-35.4%	-21.3%
Annual Avg	6.3%	6.3%	6.0%	6.0%	0.0%	0.3%	-9.9%	1.9%	-4.3%	-2.4%

The “base” estimate has 6.5% annual sales growth, a higher 25x multiple and the margin growing to 3.2%. Here, the investor makes money, albeit only a cumulative 6.2% or 0.6% annually.

Costco Five-Year Base Case: 6.5% Sales Growth, 3.2% Margin, 25x Multiple

6.5% Sales, 3.2% Margin and 25x Multiple	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
11/30/2024	17.08	9.64	584.08	258,805	443.1	2.9%	56.9	1.0%	971.88	
11/30/2034	35.08	19.80	1,096.39	485,813	443.1	3.2%	25.0	2.3%	877.12	
Growth %	105.4%	105.4%	87.7%	87.7%	0.0%	9.4%	-56.1%	127.6%	-9.8%	6.2%
Annual Avg	7.5%	7.5%	6.5%	6.5%	0.0%	0.9%	-7.9%	1.6%	-1.0%	0.6%

A bullish series of variables suggests the top line growing 7.5%, margins growing 600 basis points to 3.5% and the P/E a robust 35x. This combination pushes the annual total return to 5.6%. The 10-year U.S. Treasury can be had for 4.7% at this writing.

Costco Five-Year Bull Case: 7.5% Sales 3.5% Margin 35x Multiple

7.5% Sales, 3.5% Margin and 35x Multiple	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
11/30/2024	17.08	9.64	584.08	258,805	443.1	2.9%	56.9	1.0%	971.88	
11/30/2034	42.13	23.78	1,203.80	533,405	443.1	3.5%	35.0	1.6%	1,474.66	
Growth %	146.7%	146.7%	106.1%	106.1%	0.0%	19.7%	-38.5%	62.6%	51.7%	71.8%
Annual Avg	9.4%	9.4%	7.5%	7.5%	0.0%	1.8%	-4.7%	1.3%	4.3%	5.6%

Expected returns range from a 2.4% annual loss to earning 5.6% per year. The investor expecting to earn 10% annually (or more) requires some combination of growth in sales or margins that we don’t think possible. The 56.9x P/E multiple is wildly expensive and either suggests we are wrong on Costco’s ability, or willingness, to grow square footage or margins faster than we expect. The investor *can* get there in a very high inflationary environment in nominal return terms because Costco possesses pricing power to pass through rising costs, so any return assumption should contemplate inflation, or real return. But then, that can’t explain the high price.

The Magnificent 7 and Their 493 Ugly Stepsisters

This sounds like a fairy tale straight out of the Brothers Grimm. To many it is. To others it's a horror show. Semper introduced our five-factor attribution tool in our 2022 letter. We examined the impact of what we called the Fab Five tech stocks and their impact on the S&P 500. Tesla surged and then Nvidia took off, so the investment world came to know the Magnificent Seven.

In this year's letter we'll dissect the seven magnificents from the remaining 493 companies. We broke down how much of the S&P 500's investment return and growth in market capitalization, sales and profits was attributable to the 7 and how much to the 493. Seeing the data, which we just completed early this morning (Thursday, February 20), commentary will be either regrettably or mercifully brief, depending on your perspective. However uncharacteristically perfunctory the comments, the degree to which seven stocks dominated the investment landscape since 2011 is staggering. Like last year, we will also include our five-factor return attribution tables for each of the Mag 7 components but refer most commentary on each to last year's letter. The upcoming Berkshire section will expand on why we think Berkshire's selling 70% of its peak holdings in Apple, most of which took place in 2024, was a good one.

The S&P 500 is a capitalization-weighted index. As its components grow in size by market valuation relative to each other, their proportionate representation shifts. Facebook, now Meta, went public in 2012. The IPO was midyear, so we shifted the post-IPO share count and valuation to December 31, 2011 to allow for inclusion in our initial data set. Introducing this work in 2021 and believing a secular peak was at hand, surveying the prior decade seemed a good starting point. Stocks had substantially recovered from 2008 and early 2009 GFC lows so valuations were neither depressed nor overvalued. The S&P 500 closed on December 31, 2011 with a 13x multiple to earnings, not far below its average over the past century. Profit margins were at a then record 9.2%, making the 13x multiple seem not so low. Importantly, the trailing ten-year return for the index by the end of 2021 rivaled past decade-long periods of dramatically high trailing returns marking secular peaks.

The seven stocks now known as the Mag 7 comprised 8.6% of the S&P 500's market capitalization at year-end 2011. They accounted for 3.1% of index sales and 7.6% of profits in 2011. The 7 had a collective 22.7% profit margin, much higher than the index's then-record 9.2%. They traded with a slightly higher P/E multiple, 14.7x versus 13.0x. Because they made up "only" 8.6% of market cap, the remaining 493 components, also market-cap weighted, looked much more like the entire index. If the 7 were equal weighted they would have collectively made up 1.4% (500/7) of market cap, not 8.6%.

Ten years later, at the end of 2021, the Mag 7 produced a collective 32.9% *annualized* total return versus 16.6% for the S&P 500. The index return was again among the best ten-year trailing returns ever. The remaining 493 earned 13.4% per year, significant over ten years. The 7 grew dollar sales from \$294 billion to nearly \$1.5 trillion, 407% cumulative growth or 17.6% annually. S&P 500 sales grew only 3.4% annually, and because the 7 grew faster, the 493 only saw 2.5% sales growth per year.

Profit margins for the Mag 7 actually shrank, from 22.7% to 20.6% over the ten years. The index margin rose to 13.0% by 2021, a record margin that stands today. The 493's profit margin grew from 8.7% to 12.4%, lower than the 500 index. How? The 7 had grown from 8.6% of the market capitalization to 29.2%, thus its profits had more *weight* in the index, despite a falling margin while the index and the 493 enjoyed rising margins.

The 7 had more decline in share count from share repurchases because Apple and Microsoft were huge buyers of their own shares. The impact of share repurchases was particularly helpful to returns during the years when each company's shares traded closer to 10x to earnings versus more than 30x more recently. The Mag 7 share count collectively declined 22.5% over the decade to 2021, adding 2.6% to total return.

Please see last year's letter for how the math of lower and higher share counts are additive and deleterious to return, respectively, and how the calculations are made. It's not intuitive when viewing the tables' figures.

Combining the five multiplicative factors of dollar sales growth, changing share count, changing profit margin and a changing P/E multiple and then adding return from dividends produces the following for the 500, 7 and 493:

10 Year Return Attribution to 2021---S&P 500, Mag 7, S&P 493

S&P 500 10 Year to 2021	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	96.44	29.12	1,052.83	9,531.2	9,052.93	9.2%	13.0	2.3%	1,257.60	
12/31/2021	208.21	63.12	1,566.80	13,266.5	8,467.26	13.3%	22.9	1.3%	4,766.18	
Growth %	115.9%	116.8%	48.8%	39.2%	6.9%	45.1%	75.5%	-42.8%	279.0%	362.6%
Annual Avg	8.0%	8.0%	4.1%	3.4%	0.7%	3.8%	5.8%	2.3%	14.3%	16.6%

MAG 7 10 Year to 2021	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	0.07	0.01	0.29	293.8	1,000.000	22.7%	14.7	0.6%	0.98	
12/31/2021	0.40	0.05	1.92	1,489.4	775.655	20.6%	38.4	0.3%	15.20	
Growth %	4.95	1.58	553.6%	406.9%	28.9%	-9.0%	161.6%	13.6%	1,455.5%	1,613.5%
Annual Avg	0.20	0.10	20.7%	17.6%	2.6%	-0.9%	10.1%	1.3%	31.6%	32.9%

S&P 493 10 Year to 2021	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	80.65	25.76	923.74	9,237.4	1,000.00	8.7%	12.9	2.5%	1,040.78	
12/31/2021	149.31	51.13	1,207.91	11,777.2	975.00	12.4%	19.6	1.7%	2,929.89	
Growth %	85.1%	98.5%	30.8%	27.5%	2.6%	41.6%	52.1%	28.5%	181.5%	253.0%
Annual Avg	6.4%	7.1%	2.7%	2.5%	0.3%	3.5%	4.3%	2.5%	10.9%	13.4%

A housekeeping note is in order here. I'm often asked how a dividend yield attribution can be higher than a beginning and ending dividend yield. You will see this oddity throughout the return tables. In the case of the Mag 7, Apple was not yet paying a dividend at year-end 2011. They did shortly thereafter. Microsoft and Apple together made up most of the combined market cap of the 7 in 2021 and traded for low double-digit P/Es, thus also had higher than today's dividend yields. The ending Mag 7 dividend yield was 0.3% at both 2021 and in 2024. [I think the way we derived dividend yield attribution for the Mag 7 and 493 are slightly incorrect, using weighted-average market caps applied to yield, which ignores relative multiples. Yield attribution for the Mag 7 is slightly overstated and understated for the 493.] We'll work on this in the offseason.] P/E multiples are slightly lower today but more of the components pay dividends. Secondly, total return calculations presume dividends are reinvested in a security or index when paid, thus benefitting from any subsequent period appreciation. It's a horrible but necessary calculation. Perhaps an entire section in next year's letter will be dedicated to the subject. Tell me what Microsoft would have done with all of the dividends it's paid? Better yet, could Costco have spent the money internally instead of paying it out to shareholders? Sure, but what would they have spent it on? Opening restaurants?

Another housekeeping note regarding the data. We are using company market capitalizations for each company and for the S&P 500 using all outstanding shares. Standard and Poor's uses float-adjusted

market caps in index construction and return calculation. Companies with large insider ownership own shares not considered in the public “float.” As such, only the portion of market cap in the public float is included when weighting each component. It’s an oddity which slightly overstates our proportionate calculations of the Mag 7 as a percentage of the total index. However, if the largest components get that way in part for expanding valuation and become expensive, the more insiders sell shares, the more float they have as a percentage of the index. Thus, the more insiders sell, the larger the stocks become in the index. Go figure. When Elon and his board-member brother top-tick share sales, those shares become part of the float.

Let’s now blitz through return attributions for the subsequent three years to year-end 2024. Viewing the 500, 7 and 493 together during 2022’s decimation to recoveries in 2023 and 2024 is useful in seeing how each of the five factors affected each group.

Tech and momentum investing endured an ugly 2022. The Mag 7 were shellacked by 40.2%, with margins and multiples hammered. Even 8.3% sales growth couldn’t prevent the bleeding, as growth was slower than expected. Costs ballooned, working backward through operating leverage, driving profit margins down from 20.6% to 17.1%.

Inflation drove top-line prices upward by 10.6% for the S&P 500 and an even higher 10.9% for the 493. But margins collapsed everywhere, falling from the record 13.3% to 11.2% for the 500 and from 12.4% to 10.5% for the 493. The Mag 7 saw its P/E shaved from a heady 38.4x to 25.0x while the 500 dropped from 22.9x to 19.5x. The 493 multiple dropped from 19.6x to 18.4x.

Not owning the Mag 7 benefited investors. Owning the 493 instead of the full index saved roughly 10% by losing 8.5% instead of 18.1%. Semper looked relatively bright by making money in 2022.

1 Year Return Attribution 2022---S&P 500, Mag 7, S&P 493

S&P 500 1 Year 2022	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	208.21	63.12	1,566.80	13,266.5	8,467.26	13.3%	22.9	1.3%	4,766.18	
12/31/2022	196.95	69.56	1,752.90	14,670.1	8,369.04	11.2%	19.5	1.8%	3,839.50	
Growth %	-5.4%	10.2%	11.9%	10.6%	1.2%	-15.5%	-14.8%	36.8%	-19.4%	-18.1%
Annual Avg	-5.4%	10.2%	11.9%	10.6%	1.2%	-15.5%	-14.8%	1.3%	-19.4%	-18.1%

MAG 7 1 Year 2022	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	0.31	0.04	1.49	1,489.4	1,000.000	20.6%	38.4	0.3%	11.79	
12/31/2022	0.28	0.04	1.64	1,613.5	983.712	17.1%	25.0	0.5%	7.02	
Growth %	-0.09	0.00	10.1%	8.3%	1.7%	-17.1%	-34.8%	0.3%	-40.5%	-40.2%
Annual Avg	-0.09	0.00	10.1%	8.3%	1.7%	-17.1%	-34.8%	0.3%	-40.5%	-40.2%

S&P 493 1 Year 2022	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	149.31	51.13	1,207.91	11,777.2	975.00	12.4%	19.6	1.7%	2,929.89	
12/31/2022	143.06	56.73	1,360.97	13,056.6	959.36	10.5%	18.4	2.2%	2,629.88	
Growth %	-4.2%	11.0%	12.7%	10.9%	1.6%	-15.0%	-6.3%	1.7%	-10.2%	-8.5%
Annual Avg	-4.2%	11.0%	12.7%	10.9%	1.6%	-15.0%	-6.3%	1.7%	-10.2%	-8.5%

Where the 493 offered protection in 2022, they were an anchor in 2023. Margins and multiples staged recoveries for the Mag 7 in 2023. Combined with 10.8% sales growth and ongoing share repurchases at Apple and Microsoft, returns were modestly bolstered 1.2% by a declining share count. The Mag 7 posted a 76.6% total return due to rising (recovering) margins and multiples.

The S&P 500 returned 26.3% and the 493 only 12.3% in 2023. More than half of the index return was thanks to the Mag 7. Multiples recovered for all, but profit margins continued 2022's decline for the 493, falling from 10.5% to 10.2%. Sales growth was higher than over the past decade but slower than in 2022 as inflation moderated. The S&P 500 was back to a 22.3x P/E while the 7 surged to 32.6x. The 493 ended 2023 at 19.7x.

1 Year Return Attribution 2023---S&P 500, Mag 7, S&P 493

S&P 500 1 Year 2023	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2022	196.95	69.56	1,752.90	14,670.1	8,369.04	11.2%	19.5	1.8%	3,839.50	
12/31/2023	213.53	70.30	1,872.30	15,716.3	8,394.13	11.4%	22.3	1.5%	4,769.83	
Growth %	8.4%	1.1%	6.8%	7.1%	-0.3%	1.5%	14.6%	-18.6%	24.2%	26.3%
Annual Avg	8.4%	1.1%	6.8%	7.1%	-0.3%	1.5%	14.6%	2.0%	24.2%	26.3%

MAG 7 1 Year 2023	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2022	0.28	0.04	1.61	1,613.5	1,000.000	17.1%	25.0	0.5%	6.90	
12/31/2023	0.37	0.04	1.81	1,788.1	988.219	20.6%	32.6	0.3%	12.15	
Growth %	0.35	0.01	12.1%	10.8%	1.2%	20.7%	30.1%	0.6%	76.1%	76.6%
Annual Avg	0.35	0.01	12.1%	10.8%	1.2%	20.7%	30.1%	0.6%	76.1%	76.6%

S&P 493 1 Year 2023	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2022	143.06	56.73	1,360.97	13,056.6	959.36	10.5%	18.4	2.2%	2,629.88	
12/31/2023	146.62	56.67	1,434.60	13,928.3	970.88	10.2%	19.7	2.0%	2,886.84	
Growth %	2.5%	-0.1%	5.4%	6.7%	-1.2%	-2.8%	7.1%	2.6%	9.8%	12.3%
Annual Avg	2.5%	-0.1%	5.4%	6.7%	-1.2%	-2.8%	7.1%	2.6%	9.8%	12.3%

By year-end 2023, most indices were essentially back to where they started before 2022's demolition derby. Levitation continued in 2024 when the S&P 500 returned 25.0%, the Mag 7 again surged, earning 48.3% and the 493 again badly trailed the Mag 7, posting a 14.4% total return. Notably in 2024, profit margins for the 493 declined for the third year in a row, this time from 10.2% to 10.0%. Multiples expanded across the board by a like amount. 13.9% growth of dollar sales by the Mag 7 contributed to the S&P's 6.3%, while the offsetting 493 only saw revenues grow 5.8%.

1 Year Return Attribution 2024---S&P 500, Mag 7, S&P 493

S&P 500 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	213.53	70.30	1,872.30	15,716.3	8,394.13	11.4%	22.3	1.5%	4,769.83	
12/31/2024	233.28	74.83	1,972.11	16,699.6	8,467.89	11.8%	25.2	1.3%	5,881.63	
Growth %	9.2%	6.4%	5.3%	6.3%	-0.9%	3.7%	12.9%	-13.7%	23.3%	25.0%
Annual Avg	9.2%	6.4%	5.3%	6.3%	-0.9%	3.7%	12.9%	1.7%	23.3%	25.0%

MAG 7 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	0.37	0.04	1.79	1,788.1	1,000.000	20.6%	32.6	0.3%	12.01	
12/31/2024	0.50	0.05	2.06	2,037.2	990.841	24.2%	35.7	0.3%	17.75	
Growth %	0.35	0.00	15.0%	13.9%	0.9%	17.4%	9.5%	0.4%	47.8%	48.3%
Annual Avg	0.35	0.00	15.0%	13.9%	0.9%	17.4%	9.5%	0.4%	47.8%	48.3%

S&P 493 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	146.62	56.67	1,434.60	13,928.3	970.88	10.2%	19.7	2.0%	2,886.84	
12/31/2024	149.06	59.04	1,498.06	14,729.2	983.22	10.0%	21.7	1.8%	3,235.71	
Growth %	1.7%	4.2%	4.4%	5.8%	-1.3%	-2.6%	10.2%	2.3%	12.1%	14.4%
Annual Avg	1.7%	4.2%	4.4%	5.8%	-1.3%	-2.6%	10.2%	2.3%	12.1%	14.4%

Perhaps the best way of demonstrating the remarkable outperformance of the Mag 7 is by assessing their proportionate share of growth. History has seen nothing like the growth and concentration of the Mag 7 in recent years. Since 2011, the market capitalization of the Mag 7 ballooned from \$977 billion to nearly \$17.6 trillion at year-end 2024. The S&P 500 meanwhile added \$38.4 trillion, meaning 43.2% of the 13-year change in market valuation came from seven companies. Their share of sales rose from 3.1% of index sales to 12.2%, or 24.3% of all revenue growth.

Profit share expanded even more disproportionately, growing from 7.6% of index profits to 25.8%. 40% of the index profit growth came from the Mag 7. As we'll see, over the last three years ended 2024, close to 100% of profit growth for the S&P 500 came from the Mag 7.

Magnificent Seven and S&P 493 Share of S&P 500; 2011-2024

(Dollars in Billions)

	Market Cap	Proportion of Market Cap	Sales	Proportion of Sales	Profit	Proportion of Profit	Profit Margin
2011							
S&P 500	\$ 11,385		\$ 9,531		\$ 873		9.2%
S&P 493	10,408	91.4%	9,237	96.9%	806	92.4%	8.7%
MAG 7	977	8.6%	294	3.1%	67	7.6%	22.7%
2021							
S&P 500	40,356		13,267		1,763		13.3%
S&P 493	28,566	70.8%	11,777	88.8%	1,456	82.6%	12.4%
MAG 7	11,790	29.2%	1,489	11.2%	307	17.4%	20.6%
2022							
S&P 500	32,133		14,670		1,648		11.2%
S&P 493	25,230	78.5%	13,057	89.0%	1,372	83.3%	10.5%
MAG 7	6,903	21.5%	1,613	11.0%	276	16.7%	17.1%
2023							
S&P 500	40,039		15,716		1,792		11.4%
S&P 493	28,028	70.0%	13,928	88.6%	1,423	79.4%	10.2%
MAG 7	12,011	30.0%	1,788	11.4%	369	20.6%	20.6%
2024							
S&P 500	49,805		16,700		1,975		11.8%
S&P 493	32,213	64.7%	14,662	87.8%	1,482	75.0%	10.0%
MAG 7	17,592	35.3%	2,037	12.2%	493	25.0%	24.2%

Source: Semper Augustus, Company Filings

Market capitalization is not float adjusted. Undiluted shares outstanding. Year-end figures.

The next table summarizes the proportion of S&P 500 change in market cap, sales and profit gained by the Mag 7 and S&P 493. Three periods are examined – 2024, the three years ended 2024, and finally the thirteen years ended 2024.

The Mag 7 accounted for a whopping 57% of the entire S&P 500's change in market cap in 2024, amazing given the index posted a 25.0% total return. The seven companies accounted for 25% of sales growth and an incredible 68% of growth in index profits. Similarly, the Mag 7 accounted for stunning proportions of gains in all three measures over longer periods.

For the three years ended 2024, the Mag 7 contributed \$5.8 trillion of the index's \$9.5 trillion increase in market cap. They were "only" 16% of sales growth but an incredible 88% of profit growth, extreme because sales for the seven grew 60.8% but also as sales barely budged for the 493, growing only 1.8% cumulatively over the three years.

The full 13 years saw the Mag 7 account for 43.2% of the increase in index market cap, 24.3% of sales growth and remarkably 38.7% of profit growth. I could have titled this section "Hyperbole." But man.

Magnificent Seven and S&P 493 Proportionate Share of S&P 500 Gains; 2011-2024 (Dollars in Billions)

	Percent Change in Market Cap	Dollar Change in Market Cap	Proportion of Change in Market Cap	Percent Change in Sales	Dollar Change in Sales	Proportion of Change in Sales	Percent Change in Profit	Dollar Change in Profit	Proportion of Change in Profit
2024									
S&P 500	24.4%	\$ 9,766		6.3%	\$ 983		10.2%	\$ 183	
S&P 493	14.9%	4,186	42.9%	5.3%	734	74.7%	4.1%	59	32.0%
MAG 7	46.5%	5,581	57.1%	13.9%	249	25.3%	33.7%	124	68.0%
Dec 2021 - Dec 2024									
S&P 500	23.4%	9,449		25.9%	3,433		12.0%	212	
S&P 493	12.8%	3,647	38.6%	24.5%	2,885	84.0%	1.8%	26	12.2%
MAG 7	49.2%	5,801	61.4%	36.8%	548	16.0%	60.8%	186	87.8%
Dec 2011 - Dec 2024									
S&P 500	337.5%	38,420		75.2%	7,168		126.3%	1,102	
S&P 493	209.5%	21,806	56.8%	58.7%	5,425	75.7%	83.8%	676	61.3%
MAG 7	1700.2%	16,614	43.2%	593.4%	1,743	24.3%	640.8%	427	38.7%

Not shown are tables for the two years 2023 and 2024 combined, years of back-to-back rapid investment returns. Over the two years of bull market returns, the Mag 7 posted a 162% cumulative return, 62.0% per year. The S&P 500 earned 57.9% over the two years, or 25.6%. *The Mag 7's return contributed more than half of the index return over the two years 2023 and 2024.* The 493 earned 28.5% cumulatively, 13.3% per year.

The three years combining 2022's decline and 2023 and 2024's rapid gains are perhaps more telling. We'll look at that series next followed by entire 13-years 2011 to 2024.

The three years to year-end 2024 saw a bloodbath, a recovery to essentially flat, and then a move to the positive. Breaking down the factor components is fascinating. The S&P 500 earned a 29.3% total return, 8.9% per annum over the three years. The Mag 7 gained 56.4% cumulatively, 16.1% annually. Meanwhile, the 493 merely earned 18.0% over the stretch, only 5.7% per annum.

Beginning with profit margins, the Mag 7's expanded from 20.6% to 24.2%, contributing more than a third of the group's total investment return. In the meantime, margins for the 493 collapsed from 12.4% to

10.0%, harming returns by 7.0% annually. The 493 pulled the S&P 500 margin down from 13.3% to 11.8% over three years despite the S&P 500's rising modestly over the last two years. Profit margins for the 493 fell in each the three consecutive years.

Inflation contributed to dollar sales growth across the board, with sales rising 11.0% annually for the Mag 7 and a lesser 8.0% and 7.7% respectively for the 500 and 493. The Mag 7 continued net share repurchases, while the 493 actually diluted shareholders as company executives exercised more option and RSU shares than the companies repurchased (recall total share repurchases are over \$1 trillion and are consuming roughly half of cash flow from operations).

The Mag 7 were rewarded for more growth, and their collective P/E is 35.7x at year-end 2024, albeit lower than three years ago. The S&P 500 is back to a rich 25.2x. The 493, harmed with falling margins, still commands a 21.7x multiple to earnings. Even the 493, if further carved up like we did here with the 500, is capitalization-weighted and has large components at the top of the remaining universe that are extremely expensive. See Costco from above and companies like Walmart and Broadcom.

3 Year Return Attribution to 2024---S&P 500, Mag 7, S&P 493

S&P 500 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	208.21	63.12	1,566.80	13,266.5	8,467.26	13.3%	22.9	1.3%	4,766.18	
12/31/2024	233.28	74.83	1,972.11	16,699.6	8,467.89	11.8%	25.2	1.3%	5,881.63	
Growth %	12.0%	18.6%	25.9%	25.9%	0.0%	-11.0%	10.1%	-3.9%	23.4%	29.3%
Annual Avg	3.9%	5.8%	8.0%	8.0%	0.0%	-3.8%	3.3%	1.7%	7.3%	8.9%

MAG 7 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	0.31	0.04	1.49	1,489.4	1,000.000	20.6%	38.4	0.3%	11.79	
12/31/2024	0.51	0.05	2.11	2,037.2	963.218	24.2%	35.7	0.3%	18.26	
Growth %	0.67	0.01	42.0%	36.8%	3.8%	17.4%	-7.1%	1.1%	54.9%	56.4%
Annual Avg	0.19	0.00	12.4%	11.0%	1.3%	5.5%	-2.4%	0.4%	15.7%	16.1%

S&P 493 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	149.31	51.13	1,207.91	11,777.2	975.00	12.4%	19.6	1.7%	2,929.89	
12/31/2024	149.06	59.04	1,498.06	14,729.2	983.22	10.0%	21.7	1.8%	3,235.71	
Growth %	-0.2%	15.5%	24.0%	25.1%	-0.8%	-19.5%	10.6%	7.1%	10.4%	18.0%
Annual Avg	-0.1%	4.9%	7.4%	7.7%	-0.3%	-7.0%	3.4%	2.3%	3.4%	5.7%

Finally, below is our five-factor attribution for the entire time period under review, the 13 years from December 31, 2011, to December 31, 2024.

Recall our charts for rolling 10-year total return intervals for the S&P 500 back to the 1800s. 2021 looked like a secular top with a 16.6% trailing annual return. Despite the pyrotechnics of the last three years and what feels to most like a ripping bull market over the last two of those, the rolling tens are rolling over. What was a 16.6% total return for the S&P 500 for the decade through 2021, adding the next three years, the thirteen-year annual return is now a lower 14.7%. Returning an 8.9% annual return over the last three years was a drag, and even pulls the Ibbotson long-term 10.5% return fractionally downward.

This 13-year sequence saw the Mag 7 earn 2,825.6% (the decimal, really?), or 29.7% compounded annually. The 493, by contrast, returned 312.4% cumulatively, 11.5% per year. The 493, which comprised 91.4% of the starting S&P 500 market cap, earned a 3.2% lower annual return than the S&P 500's 14.7%, and saw its share of the index fall to 63.9%. This is in the index comprising 82% of the entire U.S. stock market, which itself is more than half of the market cap of the entire planet's combine stock markets. Dang!

13 Year Return Attribution to 2024---S&P 500, Mag 7, S&P 493

S&P 500 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	96.44	29.12	1,052.83	9,531.2	9,052.93	9.2%	13.0	2.3%	1,257.60	
12/31/2024	233.28	74.83	1,972.11	16,699.6	8,467.89	11.8%	25.2	1.3%	5,881.63	
Growth %	141.9%	157.0%	87.3%	75.2%	6.9%	29.1%	93.3%	-45.1%	367.7%	498.0%
Annual Avg	7.0%	7.5%	4.9%	4.4%	0.5%	2.0%	5.2%	2.1%	12.6%	14.7%

MAG 7 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	0.07	0.01	0.29	293.8	1,000.000	22.7%	14.7	0.6%	0.98	
12/31/2024	0.71	0.07	2.91	2,037.2	699.113	24.2%	35.7	0.3%	25.16	
Growth %	9.60	3.51	891.9%	593.4%	43.0%	6.8%	143.0%	17.8%	2,475.0%	2,825.6%
Annual Avg	0.20	0.12	19.3%	16.1%	2.8%	0.5%	7.1%	1.3%	28.4%	29.7%

S&P 493 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	80.65	25.76	923.74	9,237.4	1,000.00	8.7%	12.9	2.5%	1,040.78	
12/31/2024	149.06	59.04	1,498.06	14,729.2	983.22	10.0%	21.7	1.8%	3,235.71	
Growth %	84.8%	129.2%	62.2%	59.5%	1.7%	14.0%	68.2%	36.1%	210.9%	312.4%
Annual Avg	4.8%	6.6%	3.8%	3.7%	0.1%	1.0%	4.1%	2.4%	9.1%	11.5%

So, where do the S&P 500 and its the Mag 7 and 493 family members go from here? Even with three years of inflation, three-year annual sales growth for the Mag 7 dropped to 11.0% from 17.6% over the decade ended 2021, yet the group still trades at a 35.7x multiple. There are gads of companies I've followed over the years that were growing sales at 10% or 11% per year for a long time, and then weren't. Multiples collapsed when sales growth slowed. How durable is a 24.2% net profit margin? No doubt the answer is company specific, but the high margins go hand-in-hand with very high returns on capital, at the moment. Capital expenditure budgets are dramatically on the rise, and there's no guarantee that returns will be high. It's a good bet they won't. With rising capital needs, do voracious appetites for share repurchases persist? Margin pressure and rising share counts among the 493 and elsewhere demonstrate otherwise.

The figure in these tables I can't get over is the S&P 493 trading at a 21.7x multiple to earnings, despite only 3.7% annual sales growth for 13 years and essentially no net reduction in shares outstanding. Either profit margins pick back up or sales grow faster with no more margin diminution. Otherwise, a 21.7x multiple makes zero sense, barring hyperinflation whereby the asset value of publicly traded companies becomes a store of wealth.

Let's now have a bite of the Apple and blitz through attribution tables for the Mag 7 components.

The Seven

Semper's five-factor return tables are presented for each of the Mag 7 component companies over three time periods:

- 2024
- Three years 2021 to 2024
- Thirteen years from 2011 to 2024

I'm going to refrain from separate commentary on each of the seven companies and simply present the tables. Last year's letter contains a brief narrative for each. Apple is discussed throughout the Berkshire section of this letter. A similar analysis of Costco seen earlier can be applied to Apple. Both are large, established franchises with durably predictable growth and profitability. From large revenue bases, I don't think either company will grow sales or profits fast enough to warrant current valuations. Both are significantly overvalued, in my opinion.

Microsoft is the next most predictable business, particularly for the huge installed base requiring its licensed operating system and desktop software. The valuation reflects their incredible success. Revenue growth, considering the already large top line, has been nothing short of impressive. The cloud, and now AI businesses, within some of the seven companies are exciting and will surely grow rapidly. I don't contain the skill set to know where it's headed, what the competitive landscape will look like and how rising capital intensity may or may not translate into high or adequate profitability. The land rush reminds me of the laying of dark fiber optical cable, even of the early auto industry, railroads or canals. Booms invariably bust. We tend to stick to those businesses where we can be reasonably confident in what they will look like in five or ten years, and importantly in their profitability and competitive positions.

The larger these seven businesses become, the slower they will grow. You are seeing it already in most cases. Margins are generally high, as are multiples. Amazon is still growing into its profitability and is building an increasingly unassailable set of businesses. I have no idea what Google and Facebook will look like in ten years, or even what they will be called. Nvidia grew sales and margins so incredibly fast over a short period that confidently knowing where the business is headed is tough. The stock, intermittently the largest market cap in the world over short stints last year, is capitalized at a huge multiple on a newly huge margin. The price suggests the company is in the early stages of growth and will maintain a net margin above 50%. With more than a third of a century observing businesses, it's a tough bet. Tesla? What's to say? I'm just glad I have years of unpopped popcorn inventory left over from the pandemic.

Pay special attention to the interplay between our five factors. Investing in any business requires an understanding of drivers of sales growth, use of company shares, changes in margin, changes in the multiple to margins and returns via dividend policy relative to valuation. High sales growth and high margins capitalized at high multiples require sustainability. When results fall shy of expectations, the investment outcome can be ugly.

With no further commentary, other than two additional charts depicting Nvidia's incredible ascent, here are our tables for the Mag 7 companies.

Apple

Return Attribution: 2024; 2021 to 2024; 2011 to 2024---Apple

AAPL 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	6.42	0.95	24.95	385.7	15.460	25.7%	30.0	0.5%	192.53	
12/31/2024	6.97	1.00	26.31	395.8	15.041	26.5%	35.9	0.4%	250.42	
Growth %	8.6%	5.3%	5.5%	2.6%	2.8%	2.9%	19.8%	-19.1%	30.1%	30.7%
Annual Avg	8.6%	5.3%	5.5%	2.6%	2.8%	2.9%	19.8%	0.6%	30.1%	30.7%

AAPL 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	6.04	0.87	23.15	378.3	16.341	26.1%	29.4	0.5%	177.57	
12/31/2024	6.97	1.00	26.31	395.8	15.041	26.5%	35.9	0.4%	250.42	
Growth %	15.4%	14.9%	13.7%	4.6%	8.6%	1.5%	22.2%	-18.5%	41.0%	43.3%
Annual Avg	4.9%	4.8%	4.4%	1.5%	2.8%	0.5%	6.9%	0.6%	12.1%	12.7%

AAPL 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	1.25	0.00	4.90	127.8	26.102	25.5%	11.6	0.0%	14.46	
12/31/2024	6.97	1.00	26.31	395.8	15.041	26.5%	35.9	0.4%	250.42	
Growth %	457.6%	0.0%	437.2%	209.6%	73.5%	3.8%	210.6%	0.0%	1,631.8%	1,952.3%
Annual Avg	14.1%	0.0%	13.8%	9.1%	4.3%	0.3%	9.1%	1.6%	24.5%	26.2%

Microsoft

Return Attribution: 2024; 2021 to 2024; 2011 to 2024---Microsoft

MSFT 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	11.06	2.86	30.62	227.6	7.432	36.1%	34.0	0.8%	376.04	
12/31/2024	12.46	3.08	35.21	261.8	7.435	35.4%	33.8	0.7%	421.50	
Growth %	12.7%	7.7%	15.0%	15.0%	0.0%	-2.0%	-0.5%	-3.9%	12.1%	12.9%
Annual Avg	12.7%	7.7%	15.0%	15.0%	0.0%	-2.0%	-0.5%	0.8%	12.1%	12.9%

MSFT 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	8.74	2.36	24.65	184.9	7.500	35.5%	38.5	0.7%	336.32	
12/31/2024	12.46	3.08	35.21	261.8	7.435	35.4%	33.8	0.7%	421.50	
Growth %	42.6%	30.5%	42.8%	41.6%	0.9%	-0.2%	-12.1%	4.1%	25.3%	28.6%
Annual Avg	12.5%	9.3%	12.6%	12.3%	0.3%	-0.1%	-4.2%	0.9%	7.8%	8.7%

MSFT 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	2.67	0.72	8.60	72.1	8.382	31.1%	9.7	2.8%	25.96	
12/31/2024	12.46	3.08	35.21	261.8	7.435	35.4%	33.8	0.7%	421.50	
Growth %	366.7%	327.8%	309.6%	263.4%	12.7%	13.9%	247.9%	-73.7%	1,523.7%	1,958.1%
Annual Avg	12.6%	11.8%	11.5%	10.4%	0.9%	1.0%	10.1%	2.3%	23.9%	26.2%

Google/Alphabet

Return Attribution: 2024; 2021 to 2024; 2011 to 2024---Google/Alphabet

GOOGL 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	6.12	0.00	24.67	307.4	12.460	24.8%	22.8	0.0%	139.69	
12/31/2024	7.92	0.66	28.66	350.0	12.211	27.6%	23.9	0.3%	189.30	
Growth %	29.4%	0.0%	16.2%	13.9%	2.0%	11.4%	4.7%	0.0%	35.5%	36.0%
Annual Avg	29.4%	0.0%	16.2%	13.9%	2.0%	11.4%	4.7%	0.5%	35.5%	36.0%

GOOGL 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	5.03	0.00	19.46	257.6	13.242	25.9%	28.8	0.0%	144.85	
12/31/2024	7.92	0.66	28.66	350.0	12.211	27.6%	23.9	0.3%	189.30	
Growth %	57.5%	0.0%	47.3%	35.9%	8.4%	6.9%	-17.0%	0.0%	30.7%	31.2%
Annual Avg	16.3%	0.0%	13.8%	10.8%	2.7%	2.2%	-6.0%	0.1%	9.3%	9.5%

GOOGL 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	0.77	0.00	2.92	37.9	12.996	26.3%	21.1	0.0%	16.16	
12/31/2024	7.92	0.66	28.66	350.0	12.211	27.6%	23.9	0.3%	189.30	
Growth %	932.6%	0.0%	882.8%	823.4%	6.4%	5.1%	13.4%	0.0%	1,071.4%	1,075.4%
Annual Avg	19.7%	0.0%	19.2%	18.6%	0.5%	0.4%	1.0%	0.0%	20.8%	20.9%

Amazon

Return Attribution: 2024; 2021 to 2024; 2011 to 2024---Amazon

AMZN 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	2.96	0.00	55.36	574.8	10.383	5.3%	51.3	0.0%	151.94	
12/31/2024	5.64	0.00	60.69	638.0	10.511	9.3%	38.9	0.0%	219.39	
Growth %	90.5%	0.0%	9.6%	11.0%	-1.2%	73.8%	-24.2%	0.0%	44.4%	44.4%
Annual Avg	90.5%	0.0%	9.6%	11.0%	-1.2%	73.8%	-24.2%	0.0%	44.4%	44.4%

AMZN 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	2.33	0.00	46.15	469.8	10.180	5.0%	71.6	0.0%	166.72	
12/31/2024	5.64	0.00	60.69	638.0	10.511	9.3%	38.9	0.0%	219.39	
Growth %	142.1%	0.0%	31.5%	35.8%	-3.1%	84.1%	-45.6%	0.0%	31.6%	31.6%
Annual Avg	34.3%	0.0%	9.6%	10.7%	-1.1%	22.6%	-18.4%	0.0%	9.6%	9.6%

AMZN 13 Year to 2024s	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	0.07	0.00	5.28	48.1	9.100	1.3%	124.6	0.0%	8.66	
12/31/2024	5.64	0.00	60.69	638.0	10.511	9.3%	38.9	0.0%	219.39	
Growth %	8,022.1%	0.0%	1,048.8%	1,227.0%	-13.4%	607.0%	-68.8%	0.0%	2,434.8%	2,434.9%
Annual Avg	40.2%	0.0%	20.7%	22.0%	-1.1%	16.2%	-8.6%	0.0%	28.2%	28.2%

Facebook/Meta

Return Attribution: 2024; 2021 to 2024; 2011 to 2024---Facebook/Meta

META 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	16.57	0.00	52.49	134.9	2.570	31.6%	21.4	0.0%	354.00	
12/31/2024	24.14	2.00	64.92	164.5	2.534	37.2%	24.3	0.3%	585.51	
Growth %	45.7%	0.0%	23.7%	21.9%	1.4%	17.8%	13.5%	0.0%	65.4%	66.0%
Annual Avg	45.7%	0.0%	23.7%	21.9%	1.4%	17.8%	13.5%	0.6%	65.4%	66.0%

META 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	13.71	0.00	43.02	117.9	2.741	31.9%	24.5	0.0%	336.35	
12/31/2024	24.14	2.00	64.92	164.5	2.534	37.2%	24.3	0.3%	585.51	
Growth %	76.1%	0.0%	50.9%	39.5%	8.2%	16.7%	-1.1%	0.0%	74.1%	74.8%
Annual Avg	20.8%	0.0%	14.7%	11.7%	2.7%	5.3%	-0.4%	0.2%	20.3%	20.4%

META 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	0.31	0.00	1.73	3.7	2.142	18.0%	122.6	0.0%	38.23	
12/31/2024	24.14	2.00	64.92	164.5	2.534	37.2%	24.3	0.3%	585.51	
Growth %	7,642.1%	0.0%	3,647.7%	4,332.8%	-15.5%	106.6%	-80.2%	0.0%	1,431.5%	1,885.7%
Annual Avg	39.7%	0.0%	32.1%	33.9%	-1.3%	5.7%	-11.7%	2.5%	23.4%	25.8%

Tesla

Return Attribution: 2024; 2021 to 2024; 2011 to 2024---Tesla

TSLA 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	2.61	0.00	30.38	96.8	3.185	8.6%	95.2	0.0%	248.48	
12/31/2024	2.06	0.00	30.38	97.7	3.216	6.8%	196.0	0.0%	403.84	
Growth %	-21.1%	0.0%	0.0%	0.9%	-1.0%	-21.1%	105.9%	0.0%	62.5%	62.5%
Annual Avg	-21.1%	0.0%	0.0%	0.9%	-1.0%	-21.1%	105.9%	0.0%	62.5%	62.5%

TSLA 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	1.62	0.00	17.37	53.8	3.099	9.3%	217.4	0.0%	352.26	
12/31/2024	2.06	0.00	30.38	97.7	3.216	6.8%	196.0	0.0%	403.84	
Growth %	27.2%	0.0%	74.9%	81.5%	-3.6%	-27.3%	-9.8%	0.0%	14.6%	14.6%
Annual Avg	8.3%	0.0%	20.5%	22.0%	-1.2%	-10.1%	-3.4%	0.0%	4.7%	4.7%

TSLA 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	-0.17	0.00	0.13	0.2	1.568	-130.5%	-11.2	0.0%	1.90	
12/31/2024	2.06	0.00	30.38	97.7	3.216	6.8%	196.0	0.0%	403.84	
Growth %	-1,311.8%	0.0%	23,225.1%	47,740.4%	-51.2%	-105.2%	-1,850.3%	0.0%	21,110.1%	21,109.5%
Annual Avg	-221.2%	0.0%	52.1%	60.7%	-5.4%	-179.7%	-224.6%	0.0%	51.0%	51.0%

Nvidia

Return Attribution: 2024; 2021 to 2024; 2011 to 2024---Nvidia

NVDA 1 Year 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2023	1.20	0.16	2.47	60.9	24.640	48.5%	41.3	0.3%	49.52	
12/31/2024	2.94	0.03	5.28	129.4	24.508	55.7%	45.7	0.0%	134.29	
Growth %	145.0%	-81.3%	113.6%	112.5%	0.5%	14.7%	10.7%	-93.1%	171.2%	171.2%
Annual Avg	145.0%	-81.3%	113.6%	112.5%	0.5%	14.7%	10.7%	0.1%	171.2%	171.2%

NVDA 3 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2021	0.40	0.16	1.07	26.9	25.060	37.2%	73.5	0.5%	29.41	
12/31/2024	2.94	0.03	5.28	129.4	24.508	55.7%	45.7	0.0%	134.29	
Growth %	635.0%	-81.3%	391.8%	380.9%	2.3%	49.5%	-37.9%	-95.9%	356.6%	357.4%
Annual Avg	94.4%	-42.8%	70.1%	68.8%	0.7%	14.3%	-14.7%	0.1%	65.9%	66.0%

NVDA 13 Year to 2024	EPS	DPS	Sales Per Share	Sales in Dollars	Share Count	Margin	P/E Multiple	Yield	Price	Total Return
12/31/2011	0.02	0.00	0.16	4.0	24.488	14.7%	14.4	0.0%	0.35	
12/31/2024	2.94	0.03	5.28	129.4	24.508	55.7%	45.7	0.0%	134.29	
Growth %	12,150.0%	0.0%	3,135.1%	3,137.7%	-0.1%	278.7%	216.4%	0.0%	38,656.1%	42,157.0%
Annual Avg	44.8%	0.0%	30.7%	30.7%	0.0%	10.8%	9.3%	1.1%	58.2%	59.2%

Two bonus tables are included for Nvidia for the wow factor. The first illustrates the incredible proportion of change in market capitalization, sales and profitability contributed by Nvidia to the S&P 500 in 2004, in the three years ended 2024 and finally the 13 years likewise ended 2024. The second table does the same over the same time periods depicting the proportion of Mag 7 gains in market cap, sales and profits attributed to Nvidia.

Nvidia accounted for an amazing 171.2% total return and contributed 21.2% of the S&P 500's 24.4% dollar increase in market cap in 2024! It's 112.5% sales growth accounted for 7.0% of total revenue growth while a 143.7% surge in profit contributed 23.2% to the index's 10.2% rise in dollar profits.

The company's contribution over the last three years ended 2024 are equally impressive. Nvidia represented fully 27% of the increase in index market cap on only 3% of total sales growth but a staggering 29.2% of index profit gains.

Even more wild is Nvidia's proportionate share of gains since 2011. The company's market cap grew 38,688% and contributed 8.5% of the entire gain in market cap over 13 years. Sales growth accounted for 1.7% of the total while a 12,160% surge in profits contributed 6.5% of all index profit gains over the duration. I'm certain the investment world never saw anything like this, culminating with Nvidia rising to the largest company in the world by market valuation.

	Percent Change in Market Cap	Dollar Change in Market Cap	Proportion of Change in Market Cap	Percent Change in Sales	Dollar Change in Sales	Proportion of Change in Sales	Percent Change in Profit	Dollar Change in Profit	Proportion of Change in Profit
2024									
S&P 500	24.4%	\$ 9,766		6.3%	\$ 983		10.2%	\$ 183	
Nvidia	169.7%	2,071	21.2%	112.5%	69	7.0%	143.7%	42	23.2%
Dec 2021 - Dec 2024									
S&P 500	23.4%	9,449		25.9%	3,433		12.0%	212	
Nvidia	346.5%	2,554	27.0%	380.9%	103	3.0%	618.8%	62	29.2%
Dec 2011 - Dec 2024									
S&P 500	337.5%	38,420		75.2%	7,168		126.3%	1,102	
Nvidia	38,687.8%	3,283	8.5%	3,137.7%	125	1.7%	12,160.0%	71	6.5%

Nvidia's contribution to the incredible rise in the Mag 7's market cap, sales and profits is equally remarkable next to what it singlehandedly did for the S&P 500. Nvidia's market cap gain was 37.1% of the Mag 7's in 2024, a whopping 44.0% over the last three years and nearly 20% over the past 13 years.

The company's surging sales accounted for 27.5% of Mag 7 revenue growth in 2024, 18.7% over three years ending 2024 and 7.2% over the past 13 years. On a rise in Nvidia's profit margin from 37.2% three years ago to 55.7%, coupled with fast-rising sales, the company's profit growth made up a third of the Mag 7's profit growth from year-ends 2021 to 2024. The margin rose from 14.4% to 55.7% over the last 13 years and kicked in 16.7% of Mag 7 profit growth, again mostly over the last few years.

	Percent Change in Market Cap	Dollar Change in Market Cap	Proportion of Change in Market Cap	Percent Change in Sales	Dollar Change in Sales	Proportion of Change in Sales	Percent Change in Profit	Dollar Change in Profit	Proportion of Change in Profit
2024									
Mag 7	46.5%	\$ 5,581		13.9%	\$ 249		33.7%	\$ 124	
Nvidia	169.7%	2,071	37.1%	112.5%	69	27.5%	143.7%	42	34.1%
Dec 2021 - Dec 2024									
Mag 7	49.2%	5,801		36.8%	548		60.8%	186	
Nvidia	346.5%	2,554	44.0%	380.9%	103	18.7%	618.8%	62	33.3%
Dec 2011 - Dec 2024									
Mag 7	1,700.2%	16,614		593.4%	1,743		640.8%	427	
Nvidia	38,687.8%	3,283	19.8%	3,137.7%	125	7.2%	12,160.0%	71	16.7%

We try to be rational at Semper in deploying capital, favoring predictable, durable earning power when it's on sale. The single Magnificent Seven we've owned was Microsoft. Predicting in Semper's January 1, 2000 letter that Microsoft shareholders would lose money for 15 years, we were spot on. They did. We had no idea the stock would begin its long fall almost immediately, and we bought the stock midway to the 15-year mark at 70% off the high. From a \$620 billion market cap on \$20 billion in sales and \$7.5 billion of profit, we paid less than 10x to earnings, not 82x where it traded at the outset of 2002.

Perhaps only two of today's Mag 7 are similarly valued to underlying fundamentals as Microsoft was more than a quarter century ago. We have no idea what the future holds for the seven stocks and the businesses themselves over the next 5, 10 or 26 years. We do believe investors owning today's market-cap weighted U.S. stock market likely expect more return than they are going to get, and by a wide margin. More than 26 years of our stocks outperforming the S&P 500 by several percentage points came in part by choosing to *not* own darlings when they were most popular and fashionable on the way up. Our decisions to avoid speculating on the sustainability of rapid growth or on whether technologies will survive disruption will most certainly cost us relative return on the upside. We are perfectly fine watching others get rich quickly. It's the conservative application of our approach which allowed outsized returns over a quarter century when the index underperformed its long-term return. We find ourselves at a familiar crossroad, just as we did a quarter century ago.

BOOKS AND TUNES FOR WALKING

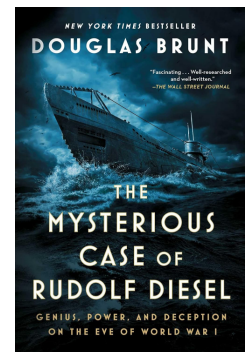
“Walking is the best possible exercise. Habituate yourself to walk very far.” – Thomas Jefferson

“I am a slow walker, but I never walk back.” – Abraham Lincoln

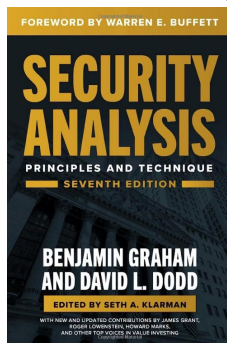
“I had pro offers from the Detroit Lions and Green Bay Packers, who were pretty hard up for linemen in those days. If I had gone into professional football the name Jerry Ford might have been a household word today.” – Gerald R. Ford; University of Michigan 1932 and 1933 national champions, Team MVP 1934

I’ve never found the day to contain enough hours. Two years ago, in preparation for two hip and single-knee replacements, I found walking, which I had always considered too pedestrian. I’m out at least two hours a day, and in doing so “lost” at least two hours of “productive” time. However, I find the time when I just walk cathartic, even meditative. The advent of the device we all carry in our pockets and purses destroyed time to simply think. But two hours being two hours, one can only just think so much. I find myself listening to more quarterly earnings calls instead of exclusively reading transcripts. I listen to more podcasts. My vice is listening and laughing out loud to Warren and Charlie field questions and banter on archived Berkshire annual meetings. What I haven’t done is taken up audio books (despite encouragement to do so) so I still manage to find time to read books. I’m grateful for the advice Charlie offered as he approached 100 – essentially don’t feel compelled to finish a book; it’s perfectly fine to skim and to stop once you’ve gotten enough out of it or find it uninteresting. I’d always felt compelled to slog through, and invariably the stacks on the nightstand and in the office and family room mounted. Besides walking, not finishing every book cover to cover is life changing. Here are some books I’ve enjoyed over the last year, and with two exceptions finished all!

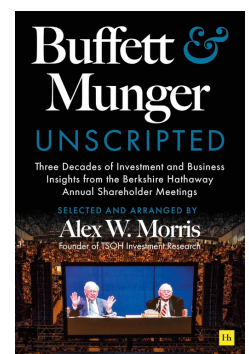
A good friend recommended *The Mysterious Case of Rudolf Diesel* by Douglas Brunt and I’m glad he did – a great read mixing big industry, invention, politics and the events leading up to World War I. The book reads like a novel. It’s just great.

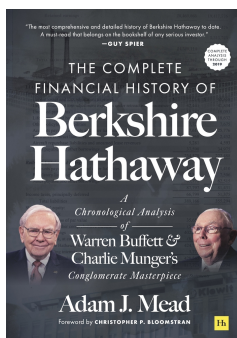


I’ve spent more time with all of the editions of Benjamin Graham and David Dodd’s *Security Analysis* than with any other book (perhaps more as a kid reading *The Lord of the Rings* trilogy and *The Hobbit* at least four times) and own an embarrassing number of copies. The prize of my collection is a sixth impression of the 1940 second edition, which is the best of all. Seth Klarman organized a fabulous group who contributed introductions to each of the 1940 edition’s sections which was released as a sixth edition of Graham’s masterpiece in 2009. It was extremely well done. Lo and behold, Seth did it again, and even better this time, by editing a seventh edition that released in 2023. Bringing back Jim Grant and Howard Marks, Klarman rounded out the effort with a host of terrific contributors – Steve Romick, Todd Combs and a bunch of others. I encourage you to read all of the introductions by today’s investors, but you will be drawn into Graham in the 1940 original. It’s addictive. Only the sections no longer relevant or that are obsolete for reasons like accounting changes are edited out. Fantastic!



Sticking with value investing, Alex Morris arranged an invaluable resource for anybody interested in business, investing and certainly in Berkshire Hathaway and Warren and Charlie by selecting and organizing *Buffett & Munger Unscripted; Three Decades of Investment and Business Insights from the Berkshire Hathaway Annual Shareholder Meetings*. The book culls the perfect comments from the meetings back to 1994, arranged by topic. It’s a wonderful read cover to cover and a fabulous resource. I can’t tell you how

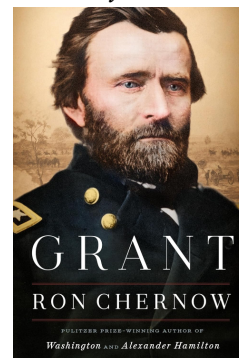




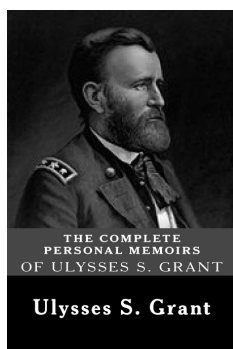
many times I want to find something Warren or Charlie said and can't quite remember the year or exactly where to search for the comments in the transcripts. The resource is as valuable as Larry Cunningham's *The Essays of Warren Buffett*, which similarly organizes by subject matter pertinent commentary from the archive of Berkshire Chairman's letters.

In similar vein, Adam Mead assembled the outstanding *The Complete Financial History of Berkshire Hathaway*. Adam organized the history of Berkshire's annual reports by decade back to the 1930s. Each decade is replete with commentary about the business and its evolution. Extremely useful to me is the inclusion of summary financial statements, not only for the holding company but for key subsidiaries. Who wouldn't like to have the figure for Berkshire's shares outstanding in 1969 at their fingertips! I had the privilege of writing the foreword to the great book.

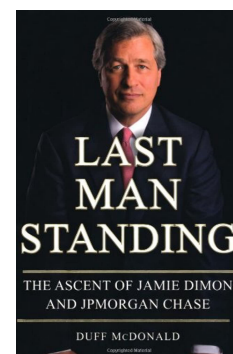
I love Revolutionary War history and biographies from the era of the war and founding. Ron Chernow's biographies on Hamilton and Washington are outstanding, as are other of his



works – *Titan*, on John D. Rockefeller, and *The House of Morgan*, on J.P. Another great friend suggested *Grant*, on Ulysses S. I've read a fraction on the Civil War relative to the Revolution. It's a really fantastic biography about the general and president I knew not enough of. I enjoyed it so much I ordered (and skimmed since it's a bazillion pages and would take a lifetime to read), *The Complete Personal Memoirs of Ulysses S. Grant*. What a giant of a man, underappreciated by history.



Yet another great recommendation came my way in *Last Man Standing: The Ascent of Jamie Dimon and JPMorgan Chase* by Duff McDonald. It's an excellent biography about Dimon, his background at American Express and Citigroup, rescuing Bank One and leadership at JP Morgan. The only regret in reading the book is that it was published in 2009. I'd love to see a Volume 2.



The final biography I'll recommend is *The Fund: Ray Dalio, Bridgewater Associates, and the Unraveling of a Wall Street Legend* by Rob Copeland. All I'll say about the book is when I read about Buffett and Munger I often find myself nodding up and down in agreement. In reading *The Fund* my head was shaking, but only side to side in disbelief. I'm not sure what I read here was covered in my human psych class in Boulder. Wild if even a portion is accurate.

Huge thanks to those who sent books my way last year. Using the Charlie method, I'm working through my library of unread books as well as the inflow. I remain a serial book buyer. Thanks also for all of the great music recommendations, not only during the annual letter process but throughout the year. My daughter broadens my musical horizons, as do your recommendations. Despite being a bit big brotherish, I love Spotify's algorithmically curated playlists upon completion of an album.

New artists (to me) that I've enjoyed this year include the extraordinary jazz singer Melody Gardot, alternative/indie performers Lake Street Dive, Sharon Van Etten, The National and Bon Iver. Leon Bridges put out a modern album as close to Motown as you will get – *Coming Home*.

Van Morrison remains prolific and recorded a number of cover albums and an acoustic one over the last few years – all terrific. Don't miss *Moving on Skiffle* and *Accentuate the Positive*. I had a chance last year to see and meet one of my all-time favorites, Marcia Ball. Fantastic long-legged singer, songwriter and killer stride pianist. East Texas blues meets Louisiana swamp rock. All of her stuff over the years is great.

As always, any suggestions on the reading or listening fronts, please send them my way.

BERKSHIRE HATHAWAY: GETTING IN TUNE



“On the other hand, we want to be prepared for it. Something will happen. That’s always been our experience. You know, we have sat through some dry spells. And this is true in both the stock market and the acquisition business. You know, I closed up the partnership in 1969 because there was nothing that made sense to do. And I’m glad I did because that situation prevailed in 1971 and 1972. But in 1973 and ’4, you know, there were all kinds of things to do. And that will happen from time to time. People will behave, particularly in markets, just as foolishly in the future as they have in the past. It’ll come at unexpected times. But we will get a chance to do something. Now, that’s more of a cash-type purchase, obviously, in the market...And we will try to think about big things. We may not find them. But Charlie and I, the larger something is, the more interested we are.” – Warren Buffett; 1995 Annual General Meeting of Shareholders.

The Year at Berkshire

Berkshire Hathaway’s “A” shares returned 25.5% in 2024. Berkshire is likely to report a 15.0% increase in book value on Saturday morning. The company repurchased 1.3% of its outstanding shares for \$9.2 billion during the first half of the year and thus should see a slightly larger 15.4% gain in book value per share. Our estimate of intrinsic value per share grew 10.5% over the year. Contributing to the discrepancy between per share gains in book value and intrinsic value was an even larger annual return on Berkshire’s stock portfolio driven mostly by multiple expansion. Berkshire drastically reduced the common stock portfolio, materially trimming its largest, and in our opinion most overvalued, component. The move makes for a more conservatively stated book value and intrinsic value. With the stock outpacing the stock portfolio, book value and intrinsic value, the shares are no longer as undervalued as in recent years. Yet a nice discount remains, lending a margin of safety to Semper’s ongoing investment. Read on.

The headlines will again trumpet Berkshire’s cash hoard, expected to total more than \$318 billion at yearend. For the first time since 2003 to 2005 cash will total a significantly larger proportion of total firm assets than on average since Berkshire acquired General Re in 1998. The cash balance will total roughly 27% of assets. Cash averaged 22% of assets during the 2003 to 2005 period and only 13% on average over the past quarter century. The headlines are typically hyperbolic, not recognizing cash and fixed-income capital needs in insurance underwriting and reserving. Tomorrow’s headlines will have merit. Berkshire has a war chest larger than is typical.

The company is likely to report \$107 billion in GAAP earnings. After-tax net income attributable to shareholders is expected to be \$85.9 billion after deducting a small portion of earnings attributable to non-controlling interests. Berkshire followers know, however, to take reported results with a grain of salt. Since 2018, companies are required to report all changes in market values of investment securities, whether realized or unrealized, as gains or losses in the statement of earnings. Previously, only realized gains and losses were included in the income statement, while both realized and unrealized changes flowed through the balance sheet. Berkshire’s stock portfolio, owned mostly within its unparalleled, world-class insurance operation, likely earned a 21.4% total return during 2024, roughly \$53 billion in market value gain plus an additional \$5 billion of dividends. Whatever Berkshire *realizes* as capital gain (an unprecedented very large number in 2024) that portion of the investment return plus the dividends would have hit the income statement in the “old days.”



Never keen to sell key investments and incur sizable taxes on realized capital gains, we saw a monumental pivot. Berkshire's common stock portfolio entered 2024 with a \$365 billion market value (I adjust the \$354 billion reported on the balance sheet). By September 30, Berkshire sold \$133 billion of its portfolio, purchasing less than \$6 billion in the meantime. The whopping \$127 billion net sale resulted in a \$97.1 billion realized taxable gain. The realized gain is *larger than all cumulative realized net gains over the past three decades (totaling \$85 billion), and I believe over the entire six decades since 1965 with current management on the job*. I wouldn't be surprised to see further portfolio net sales during the fourth quarter.

Most of the equity portfolio sale was the widely publicized reduction of its hugely successful Apple position. The sale materially de-risked the entirety of Berkshire and will be discussed shortly.

As it is, even if Berkshire *never* realized capital gains on the preponderance of the stock portfolio, all changes in market value each quarter are now included in income and taxed for GAAP purposes (but not paid as cash taxes) on the income statement with the unrealized gain offset by a 21% federal tax rate deferred liability on the balance sheet. The gains realized in 2024 will indeed see a boatload of cash sent to Washington. Who needs DOGE to fix deficits when we have BRK?

Far more important than short-term swings in stock prices is growth in *intrinsic value* per share and how Berkshire invests its capital. By Semper's math, intrinsic value grew 10.2% from \$1.022 trillion to \$1.126 trillion and with modest share repurchases *advanced 10.5% per A share to \$782,951, or \$522 per B share*. Berkshire's estimated intrinsic value first crossed \$1 trillion for the first time in 2023 using an average of Semper's four valuation methods. Closing 2024 up 25.5% at \$680,920 on the A shares, the stock finished the year at 87% of intrinsic value, up from 75% a year ago. Last year the stock was priced for 33% upside plus annual growth. Because the shares outpaced underlying growth in intrinsic value the upside is now a lower 15% plus annual growth. Annual gains in intrinsic value will correlate to Berkshire's conservatively measured more than 10% return on unleveraged equity capital.

Berkshire's A shares reached an intraday high of \$737,301 on November 27, 2024, which for the first time since we owned the stock in February 2000 the stock price exceeded Semper's prior year-end intrinsic value estimate. By November, intrinsic value was larger than at year-end 2023, so even at the yearly high the stock remained at a slight discount to value.

Capital allocation and Berkshire go hand in hand. We'll spend time on the details of Berkshire's capital allocation levers shortly. As a summary, 2024 was a very quiet year on the capital front with the exception of raising cash in the investment portfolio, which is largely held in Berkshire's insurance operation. The \$127 billion net portfolio sale amounted to 39% of the average value of the stock portfolio during the year. It was the largest dollar turnover, and I believe the largest percentage portfolio turnover percent with Warren Buffett at the helm of the company. Berkshire was a net buyer of \$34.3 billion in 2022 and net seller of \$24.2 billion in 2023. The largest prior percent single-year turnover over the past three decades was a 21.3% net purchase in 2003, following the dotcom 2000 to 2002 bear market. Net sales cumulatively totaled 29.5% over the five years ended 2021. Relative to Berkshire's transactional stock market past, 2024's net sales of Apple and others was massive in scale, both in dollars but also percentage terms. Dollar values will grow over time.

Beyond hammering the Apple position as well as Bank of America and other smaller positions down, it was a year on the capital front for golfing, or napping.

Berkshire continued investing in its energy business with sizable investments in wind and solar energy production and distribution. The energy group augments retained net income with a like amount of leverage, earning billions of dollars in tax credits. It's ongoing "growth" capital expenditures at BHE,

BNSF and its manufacturing businesses reached an expected \$8.7 billion in 2024. Modest share repurchases totaled \$2.9 billion in the first half of the year, the smallest annual outlay since Berkshire's current iteration of share repurchases began in 2018. We don't expect to see shares acquired in the fourth quarter. Berkshire made no significant acquisitions of private businesses during the year. It did close the acquisition of the remaining portion of Pilot Travel Centers for \$2.6 billion as an equity purchase, recording a \$517 million increase of capital in excess of par reflecting the excess above the carrying value of the equity method paid.

Of note, Berkshire also *issued* just over \$1 billion of Berkshire B shares to heirs of Walter Scott while BHE paid \$3.0 billion cash to acquire the 8% of BHE formerly owned by Walter Scott, presumably from his heirs and foundation. Berkshire now controls 100% of BHE.

Berkshire's economic earnings grew 14.3% in 2024. Its price to economic earnings rose from 14.5x to 16.0x, a 6.3% earnings yield. With a big gain during the year in the stock portfolio, book value (shareholder's equity) likely rose the previously mentioned 15.0% and 15.4% in per-share terms. Given book value per share growth trailing the stock price by approximately 10%, the stock price relative to book value rose from 139% to 152%. This of course does not necessarily make the stock less attractive than it was a year ago. Berkshire's assets and shareholders' equity now comprise a much larger proportion of cash versus overvalued Apple shares. Often what appears cheaper or more expensive demands investigating the valuation of the underlying assets. The good news is despite an outsized return on Berkshire's shares over the two years, Berkshire remains undervalued, only somewhat less so.

Firmwide assets are expected to total roughly \$1.167 trillion in total on the balance sheet at yearend, 9% higher over the past year. Berkshire has more tangible assets than any non-bank company in the world. That's an extraordinary thing given the company operates with an expected \$193.2 billion net cash on the balance sheet, meaning it holds more cash than debt.

The impact of change in Berkshire's investment portfolio can be seen in our expected results for 2024 and its final quarter in the table below (the portfolio gained an estimated 21.4% in 2024, following 2023's 24.1% return). There are any number of variables which may lead to a lower (or higher) earnings figure. The most likely variable would be fourth quarter underwriting results that are materially higher or lower than the \$390 million net of tax projection, which would bring the yearly tally to roughly \$6.0 billion.

Last year's letter suggested Berkshire might be the first U.S. company to reach \$100 billion in annual profit when it reported 2023 annual earnings. The estimate was short as GAAP earnings were merely \$96.2 billion. Imagine missing by \$4 billion and having most subsidiaries and moving parts correctly estimated within a few dollars. Well, your bonehead author analyst applied a firmwide 18.9% tax rate to all pre-tax earnings instead of the corporate 21.0% rate to the much larger unrealized gains on investments and a lower than firmwide rate to the much smaller operating earnings. Compounding the folly, despite making quarterly adjustments for currency gains or loss conversions on international debt outstanding, yours truly forgets the currency adjustment in the annual forecast at a time the dollar surges in the fourth quarter and, well, \$100 billion will have to wait. As they say, a billion here, a billion there, pretty soon...

I'm looking forward to seeing where this year's forecast is off. Underwriting results are often far different in short-term reporting intervals (that was the final shortfall last year). Tax treatments and currency gains are properly included in projections for GAAP earnings this year, so should be somewhat close. The bulk of work on Berkshire is not on figuring out what Berkshire will report but rather on adjustments made to the reported results in arriving at an ongoing estimate of economic earning power, then assessing the durability of earnings and how fast they will grow or won't.

We expect to see perhaps \$85.9 billion of GAAP net income when Berkshire reports 2024 results. In an odd anomaly, the expected pre-tax gain in Berkshire's investment portfolio should closely match the company's operating earnings before tax, each at \$53 billion and change. The 19.1% expected effective tax rate is below the 21% U.S. corporate rate largely given BHE's sizable negative tax rate due to tax credits earned on its investments in renewable energy. There are a ton of tax nuances to how each subsidiary and type of investment asset are taxed. A point in time snapshot with a company like Berkshire is somewhat pointless, other than to have a baseline as a starting point for analysis. With no further ado, the expectations on what we expect when Berkshire reports:

Expected 2024 Fourth Quarter and Full Year Results

(In millions of USD)	First 9 months	SAI Q4 Est.	SAI 2024 Est.
Change in Investment Portfolio (Ex KHC/OXY) *	\$46,247	\$7,079	\$53,326
Derivative Contract gains (losses)	0	0	0
Operating Earnings Before Tax (Incl Equity Method)	40,104	13,641	53,745
Earnings Before Tax	86,351	20,720	107,071
GAAP Income Tax	16,541	3,987	20,438
Effective Tax Rate	19.2%	18.8%	19.1%
Net Income **	69,810	16,823	86,633
Earnings Attributable to Noncontrolling Interests	509	229	738
Net Income Attributable to BRK Shareholders #	\$69,301	\$16,594	\$85,895

*Includes gain/loss on fixed income and OXY Pfd Divs.

**Includes amortization of identifiable intangible assets net of tax of \$389 million to 9/30, \$127 million in 4Q and \$516 million FY expected. Also includes foreign currency exchange gains (yen and euro) related to non-U.S. Dollar denominated debt net of tax of \$329m to 9/30, \$1,109m expected in 4Q and \$1,438m expected FY.

May not sum due to rounding.

The inclusion of investment gains and losses in the income statement makes use of the published financials nearly useless to most investors. Clients and readers familiar with our work on Berkshire know we make numerous changes to allow for an estimate of Berkshire's ongoing durable economic earning power. You can read about the nuances in a bit but here's a table demonstrating the wide annual disparity between reported net income and our adjusted net income.

Berkshire Net Earnings 2018 – 2024 (dollars in billions)

	2024 exp	2023	2022	2021	2020	2019	2018
GAAP Reported Net Earnings	\$85.9	\$96.2	(\$22.8)	\$89.8	\$42.5	\$81.4	\$4.0
Semper Adjusted Net Earnings	\$61.1	\$53.8	\$52.5	\$46.9	\$41.1	\$42.1	\$36.4
Net Earnings Per Avg A Share Out GAAP	\$59,668	\$66,412	(\$15,535)	\$59,460	\$26,668	\$49,828	\$2,446
Net Earnings Per Avg A Share Out Semper Adjusted	\$42,444	\$37,132	\$35,774	\$31,056	\$25,777	\$25,765	\$22,144
Average Equivalent A Shares Outstanding	1,439,546	1,448,880	1,468,876	1,510,180	1,594,469	1,633,946	1,643,795
Annual Growth in Semper Adjusted Earnings Per Share	14.3%	3.8%	15.2%	20.5%	0.1%	16.4%	11.4%*

*2017 SAI EPS \$19,336 Post-TCJA

Semper's adjusted net income calculations remove considerable non-economic reporting volatility and allow for a reasoned expectation of future earning power. Good luck figuring out the irregularity of

reported GAAP numbers. Despite a near-linear progression in Berkshire's economic earning power over time, even Semper's normalization methods can't smooth several material nuances that are distorting current earning power. Several of Berkshire's key drivers of profitability have been relatively weak while others, two in particular, are delivering an abundance of money that didn't exist two years ago.

BNSF, the railroad under Berkshire's umbrella since 2010, has suffered weak volumes for the better part of eight years, in part due to less use of coal. The last two years in particular have been particularly weak across most commodity groups, the exception being new automobiles and trucks which largely recovered from supply chain issues. The railroad will report roughly \$23.6 billion of revenue and \$5.2 billion of net income in 2024, both figures slightly higher than 2023. We measure normal earnings closer to \$7 billion and hope ongoing underearning is not the new normal. BNSF's primary competitors have reported results already and it looks like the rail industry is improving profitability, albeit slowly. Each of North America's six Class 1 rails also report weekly granular data to the Surface Transportation Board and indeed, volumes appear to have at least moderated for the time being. Truck volumes and tonnage shipped remain very poor.

Berkshire's energy operation, BH Energy, will also report dramatically improved results in 2024, only in small part due to improved volumes of power at the electric utilities but mostly for lower accruals for losses relating to 2020 wildfires in Oregon and Northern California. BHE accrued an additional \$251 million in 2024 on top of earlier large accruals for losses, most of which depressed BHE 2023 reported earnings. Cumulative recorded charges for losses before \$500 million of insurance recoverable totaled \$2.7 billion by 2023. Unpaid losses were down to \$1.45 billion on September 30, 2024. BHE will report \$2.7 billion of pre-tax earnings and a higher \$4.7 billion of net income in 2024. How often does one see more net profit than pre-tax profit? We expect BHE to report a roughly \$2 billion tax benefit for the year. Normal economic earning power at BHE is closer to \$5 billion.

Berkshire's insurance operation will again report excellent underwriting results. We expect \$6 billion of underwriting profits in 2024. The past two years have been terrific due to discipline and healthy pricing. Over the two years the insurance operation will earn \$11.4 billion on \$171 billion premiums earned. Three short years ago the insurance group posted a small underwriting loss and GEICO lost \$1.9 billion. Price and improved operations are dramatically improved at the auto insurer. If you can bear to pull yourself away from the letter for 15 minutes, get yourself a bid. You too can save 15% or more on car insurance.

The reinsurance business assumed sizable catastrophe exposure over the last two years as pricing finally became attractive. Pricing plateaued recently and it will be interesting to see how much catastrophe reinsurance business Berkshire wrote at the January renewal and what's in store more importantly midyear given moderating pricing. Fortunately, Berkshire will have losses from two second-half 2024 storms, but losses would have been far worse had the reinsurance operation written as much business as it did in 2023 when pricing was more attractive. It cut the amount of catastrophe business written during the first half of 2024. Still, Hurricane Helene cost BH Reinsurance \$380 million in the third quarter (in addition to \$260 million at GEICO and a lesser \$80 million at Berkshire's primary insurers). Hurricane Milton was a fourth quarter event and Berkshire will likely incur pre-tax losses between \$1.3 and \$1.5 billion.

Mount Berkshire™

When Berkshire's "Cash and cash equivalents" and "Short-term investments in U.S. Treasury Bills" combined balance sheet items climbed to more than \$167 billion a year ago, I urged Mr. Buffett to lean on CFO Marc Hamburg and Berkshire auditor Deloitte to consolidate the two separate classifications into a single line item, "*Mount Berkshire.*" We'll see when Berkshire releases its 2024 annual report

tomorrow morning if they saw the wisdom in the rechristening. As it is, with the combined cash position surging to an expected \$317 billion and what with the renaming of western hemisphere geographical bodies, how about making the Berkshires in Massachusetts and Connecticut the Americas and rebranding Berkshire's cash-related line items for the whole damn range. No company in the history of companies worldwide held a larger cash position. Alternatively, we could swap naming rights to "Mt. Everest" for "Mount Berkshire" and label the former "Mt. America." Of course, Nepal and the Tibet Autonomous Region of China might object. For perspective, Berkshire's cash exceeds the *combined* GDP of Nepal and Tibet (abbreviated for space considerations) by more than four times. The sherpas I know endorse this idea.

Populism

Mount Berkshire and its left-side balance sheet companions chalk in at nearly \$1.2 trillion. \$317 billion in cash is accompanied by \$285 billion in common stocks, a few bonds, the assets of either the largest or second largest railroad in North America, a huge collection of electric utilities and energy distribution assets, more than \$200 billion spread among a vast array of unleveraged manufacturing, service and retail businesses and numerous leasing assets. Nearly half of total assets comprise the mountain of cash, common stocks and bonds supporting the largest and most conservatively capitalized insurance operation in the world. By far.

Berkshire's Fort Knox of assets is offset by liabilities totaling \$515 billion, leaving an estimated \$645.7 billion of shareholders' equity at year-end 2024. One third of the liabilities, \$212 billion in total, are insurance related – unpaid losses for insurance claims, unearned insurance premiums, payables for life, health and annuity benefits and other liabilities. A smaller \$36 billion portion of non-investment assets back on the left side of the balance sheet are premiums receivable and deferred charges for retroactive reinsurance. The difference between insurance liabilities and the \$36 billion on non-investments sum to \$176 billion, which is "float" in insurance parlance. Float is essentially the premiums collected yet to be paid as losses, plus or minus a few nuances. Over Berkshire's history in the insurance game, the net float liability not only comes with no cost (like interest expense) but is better than free, meaning Berkshire's underwriting results over time are profitable before investment returns are included. Berkshire's insurance operation will report roughly \$5.9 billion of underwriting gain in 2024, meaning Berkshire's float came at a gain and not a cost.

The next largest liabilities on the balance sheet are \$124.5 billion of debt outstanding among Berkshire's various subsidiaries and at the holding company. Nearly two-thirds of the debt, \$81 billion, are obligations of BNSF railroad and the collection of utility and energy assets. None of this debt is hypothecated to Berkshire itself, meaning if a subsidiary fails the debt is not the responsibility of Berkshire. Pre-tax interest expense on the \$124 billion debt outstanding costs Berkshire roughly \$5 billion, or 4% annual interest.

The remainder of non-tax liabilities are roughly \$60 billion accounts payable, and aircraft repurchase obligations at NetJets. Payables are attached to no interest expense or otherwise.

Berkshire's final liability is more than \$93 billion of net deferred-tax liabilities for unrealized investment gains, the use of accelerated depreciation for property, plant and equipment and some smaller amounts on goodwill and intangibles. The deferred-tax liability is net of about \$11 billion deferred tax assets for unpaid insurance losses, unearned premiums, deferred revenue and some regulatory obligations. Like accounts payable, deferred-tax liabilities bear no interest expense and the longer they go unpaid serve effectively as float.

Put all the liabilities together and over time the entire right-side of the balance sheet bears no net cost. In fact, in many years the liabilities effectively earn a positive economic return. Think about that. Whatever Berkshire's collection of diversified assets earn, the leverage employed to produce the return bear no or little expense, and often produce a return.

Berkshire occasionally reports a liability for payables for purchases of Treasury Bills. This figure at September 30, 2024 was \$14.9 billion. When purchased, Treasury Bills settle the next business day, so the liability disappears on the first weekday in October and means the asset balance for Treasury Bills is overstated by the amount of the liability. Check the media headlines marveling at Berkshire's \$320.3 billion cash hoard and wondering in the same breath what Warren could possibly do with that much money. Not one headline or story about Berkshire's cash reported the correct \$305.5 billion figure. One of these days I'd love to see Berkshire invest all of Mount Berkshire in a Treasury Bill on the last day of a quarter! This is my fantasy.

The purpose of running through the components of Berkshire's balance sheet is to demonstrate the diversification, nature, durability, predictability, strength and uniquely cost-advantaged use of debt and other liabilities at Berkshire. Often cash at Berkshire exceeds term debt outstanding.

The question before the House is *not* one of awful moment to this country. Apologies to Patrick Henry. Rather, given the choice of liberty or death, Berkshire's Chairman and CEO elected liberty (or more appropriately, capital allocation) for his first 94 years and counting. The most asked question of Berkshire's prospects for most of sixty years is what happens to Berkshire's stock when its leader elects not liberty. The leader himself stated on several recent occasions that the stock could most likely rise, the business and management's successors freed of his ways. Kidding, I'm sure.

No need for Wikipedia or AI to know the succession issue at Berkshire has been belabored more than among any company over all of time. Shareholders should be comforted by the quality of successors and of the board of directors. To the issue of the balance sheet discussed above, the business is a fortress. But can the company be harmed?

Reflecting on what can harm Berkshire, there is no silver bullet that can kill it. No combination of disasters can tax the insurance operation into insolvency. The railroad will be carrying freight 100 years from now. Berkshire's utilities and distribution assets will be delivering power, in whatever form it takes. Individual subsidiaries in Berkshire's collection of MSR businesses will come and go. Three of the first businesses disappeared – the original textile operation, Diversified Retailing and Blue Chip Stamps – and fortunately for the prescience of management capital diverted to more pleasant pastures. No doubt global shocks can destroy any business, or anything, or anybody, or everybody. Any assortment of nuclear war, genuine pandemics, the loss of a world war or global depression will wreak havoc. Should a nuclear incident, or an asteroid, or aliens destroy humanity, most won't think first of their Berkshire shares. But these are sudden, and no planning is likely to offer shelter.

Rather, if Berkshire comes in harm's way it will likely be gradual. The board may appoint the wrong CEO. The CEO may appoint the wrong heads of its vast array of subsidiaries. Disruption and obsolescence will take some down. The board itself may drift from Berkshire's carefully developed culture.

More specifically, in recent years there are chinks in the armor, or at least threats to the armor. With no intention of introducing politics, a rise of populism can and will grind on capitalism. We've seen it among several of Berkshire's largest companies as well as among competitors. I'll talk specifically, and briefly, about the railroad, utilities and the insurance operation.

BNSF

Prior to Berkshire's acquisition of the railroad in 2009 (closed in 2010), the Class 1 railroad industry spent decades earning mediocre-to-poor returns on capital. Excessive regulation and lethargy made the industry awful for investors. The economics of the industry and regulation shifted in the mid 2000s. Berkshire was among a handful of early investors to figure it out. The industry was allowed to earn reasonable returns on a weighted cost of capital, encouraging investment in fixed assets. Past letters discussed the details of Berkshire's acquisition in detail. Suffice it to say Berkshire bought a business for roughly \$33 billion combining an earlier investment in common shares and finally a \$26.5 billion purchase to acquire the remaining 77.5%. At closing the purchase price was marked up to \$34.5 billion to reflect the gain on Berkshire's initial investment. Semper's valuation at year-end 2024 is \$120 to \$140 billion. Closest competitor with a nearly identical footprint is Union Pacific, fetching \$150 billion at present in the stock market. Over the years since Berkshire's acquisition, most of the railroad's earnings were not reinvested but sent to Omaha for redeployment. Over Berkshire's ownership the railroad generally earned double-digit returns on capital.

BNSF faced three distinct populist measures over the past couple years. Sparing detail, a White House executive order on a union labor agreement was forced upon the industry, mandating at least two crew members on most commercial trains, propping up union employment. The order was issued in the wake of a Norfolk Southern fiery derailment in 2023. Oddly, the derailed train had a crew of three. The order raises costs for the rails and ultimately for their customers.

Another executive order in 2024 called on the industry regulator, the Surface Transportation Board (STB), to require freight railroads to provide rights of way on their privately-owned rail lines to passenger rails (Amtrak). While perhaps well-intentioned, the mandate interferes with functioning freight markets, hinders customer service, and necessarily raises prices. The order regarding passenger rail rights of way was but one of 72 initiatives meant to "encourage competition."

Finally, the STB finalized a "reciprocal switching rule" in May 2024 which forces a railroad to carry competitor's trains. Customers of the rule may love the idea of shopping among competitive railroads, but the notion of forcing carry on your competitor's assets smacks of overreach and populism. Measures like these three may individually impart only modest damage, but taken in whole, a trend toward populism and more regulation will work against profitability. It's not inconceivable that after a two-decade respite where the Class I rails made good returns, not great returns, the industry devolves back to mediocrity or poor performance.

BHE

BHE is involved in litigation related to a series of September 2020 fires in electric utility subsidiary PacifiCorp's Oregon and Northern California territories. The fires destroyed over 2,000 structures and killed several individuals. The utility's equipment was not found to have started any of the fires. Per standard industry protocol in practice over a century, PacifiCorp elected to keep electricity on to help first responders, hospitals and others that would be harmed by loss of power. Amounts sought in complaints total approximately \$3 billion, excluding any doubling or trebling of damages. In total, while demands for losses approximate the \$2.7 billion cumulatively set aside before \$500 million of reinsurance offsets losses. Unpaid losses totaled \$1.45 billion on September 30, 2024. On top of economic losses that PacifiCorp set aside for damages, a class action complaint in Oregon seeks damages for non-economic losses including mental distress, emotional suffering, personal injury and loss of life, as well as punitive damages and attorney's fees. Non-economic demands in the Oregon class actions alone seek \$46 billion.

For perspective, Berkshire paid \$5.1 billion for PacifiCorp in 2005 and with retained earnings and ongoing capital investment has roughly \$9 billion in equity today. The company believes it will successfully defend against demands beyond economic damages. However, populism develops not just from regulation but from activist lawyers and juries. It's stunning to believe that following protocol and not starting fires a company can be liable for damages that would eliminate it.

Electric utilities exist for the public good as monopolies, tightly regulated as to rates charges customers against their rate base. Returns on equity capital are established with a modest cap. With no profit motive no private-sector utility would exist. Some believe a public-owned model to be preferable. We don't. Utilities are also responsible for environmental cleanup. For example, when public policy mandates the elimination of coal as a power source, the cost of cleanup should properly be recovered by rate. On losses and costs, regulators must ensure damages be limited unless a utility is found to behave recklessly, which PacifiCorp did not. Perhaps a mistake was made buying a utility in markets leaning anti-capitalist. Warren was asked this question about regulatory relations at Berkshire's 2000 meeting of shareholders after buying MidAmerican Energy in Iowa, their first in a series of utility acquisitions. He replied that perhaps Charlie should answer the question as he lived in California, a state not known for kindness to capital. Greg Abel, who ran BHE before taking the reins in overseeing all non-insurance operations from Mr. Buffett, stated they believe Berkshire's losses regarding the fires will be manageable relative to its capital. A potential \$48 billion against \$9 billion is insane. In that event, recall BHE and its subsidiary's debts are not guaranteed by Berkshire. You throw the car keys to the regulator and let them efficiently operate complicated utility assets and spend their own money building a very expensive renewables portfolio. In the event of a public policy shift away from private sector monopolies producing electricity to public power, it seems likely governments would compensate utility shareholders fairly, or at least reasonably.

BHE happens to own the nation's largest network of residential real estate brokerages and brokerage franchises in the U.S. Berkshire's Home Services paid \$250 million to settle anti-trust lawsuits nationwide claiming that longstanding practices in sharing seller's commissions with buyers' agents by real estate brokerages forced U.S. homeowners to pay artificially inflated broker commissions when they sold their homes. The settlement mandates any percentage shared with buyers' agents be negotiated and disclosed. Standard practice split the commission. Potential liabilities were multiples of the settled amount. The primary lawsuit was brought against the National Association of Realtors. Berkshire defended itself.

Tax Policy

Two critical changes to the corporate tax code affecting Berkshire were components of 2022's "Inflation Reduction Act" which was codenamed the 2022 Inflation Creation Act when it was drafted and circulated around Washington for nobody in Congress to actually read. First, a little-noted tax change introduced a 15% alternative minimum tax on "the adjusted financial statement income" of corporations earning over \$1 billion during rolling three-year intervals beginning after 2022. With Berkshire now including both realized and unrealized appreciation on marketable securities on its income statement, it appears they may be obligated to pay the minimum tax on *unrealized capital gains* on a rolling three-year basis. Despite the big gains in Berkshire's stock portfolio in 2023 and 2024, it appears the tax remains in a gray area. Berkshire mentioned in their third-quarter filing that they did not expect a corporate alternative tax liability in 2024 and noted in 2023 that the IRS and Treasury Department, "may release additional guidance in the future. We will continue to evaluate the impact of the 2022 Act as more guidance becomes available."

Berkshire's language was as expected. I don't think the folks in Washington realized what they passed. The notion of taxing *unrealized* capital gains is insane. I read the entire applicable portion of the bill before signed into law. With hope for an exemption by the Treasury Department, if Berkshire does end up

writing checks on unrealized gains, an 8% average price gain on the stock portfolio has them sending \$3 billion to \$4 billion per year on average to Washington *above* what they pay today. If they are harmed by the legislation, I wouldn't expect the law to be on the books for long. Surely some discussions are taking place. Lobbying is too vulgar when seeking clarity on bad law.

Second, a final ridiculous component of the new law imposed a 1% excise tax on the dollar value of share repurchases beginning this year. Berkshire's repurchases since 2018 would have sent \$750 million to the IRS. While excessive executive compensation is troubling, don't tax the offsetting repurchase which masks dilution. Share repurchases are an extremely valuable allocation tool when done well. The abuse is not the repurchase. If you want to tax something, tax the share grant.

Ajit Jain, Berkshire's Vice Chairman of Insurance Operations joined Berkshire in 1986. He's run the insurance operation for the duration and built Berkshire's reinsurance business into the best in the world, specializing in pricing large risks. For years he talked daily with Warren, who credits Ajit for Berkshire being what it is today. Like Warren, Charlie, all employees and the board of directors at Berkshire, Ajit was never granted shares as compensation, instead amassing a huge investment over his time at the company. All purchases made with personal capital. Noteworthy was a sale by Ajit of 200 Berkshire A shares in November for approximately \$139 million. Ajit's \$695,418 average sale price was at 98% of my 2023 year-end appraisal of intrinsic and 89% of my current valuation.

I may be wrong, but I don't think the sale had *anything* to do with Ajit thinking Berkshire's shares were so overvalued they would imminently tank. Instead, an August 2024 White House budget proposal for 2025 (and later a campaign proposal) introduced a 25% minimum tax on total income, *including unrealized gains*. As proposed, the tax would apply to individual taxpayers with wealth above \$100 million. While unconscionable, a tax on unrealized gains requires cash to pay it. I don't know about many of you, but I doubt Ajit had cash lying around to send to Washington to cover a tax liability on shares he hadn't sold. Prior to his 200-share sale of the A shares, Ajit owned 449 A share equivalents per Berkshire's 2024 proxy statement (he owned 124,799 B shares, equal to 83.2 A shares). At the time of his sale, Ajit ownership of Berkshire totaled \$312 million, with most of his shares having a *very low tax basis*. If enacted, he'd be on the hook for perhaps \$75 million of tax liability. As a risk manager, one might think about raising cash just in case, particularly with Berkshire's shares trading closer to intrinsic value than they had in decades.

One would think that companies with lots of wealthy owners with \$100+ million net worths (code for Berkshire) would see their shares under pressure when those facing the tax liability were forced to sell to raise cash. Warren would have been obligated to sell unless he donated all of his holdings to charity before the tax was applied. Warren's tax basis from 1965 is perhaps \$10 or \$11 per share, some bought at \$7.50 as early as 1962.

With a change in the White House, the tax proposal is dead, hopefully for good. So too was a proposal to eliminate the cost basis step-up at death. As such, I wouldn't be surprised to see Ajit make a sizable charitable donation to either his foundation or other charities. If Ajit's motivation on reducing his Berkshire position led with charitable intent, he would have given shares initially. Instead, he expected he might need cash first. Gifts made in cash receive a tax deduction depending on the type of charity. Gifts of shares are typically more tax advantageous than gifts of cash (Ajit has done this in the past in funding his foundation), but with deductions his tax on the realized gain portion of the \$139 million sale will be closer to a single-digit tax rate versus the 30.8% he'd pay when combining the 23.8% federal rate (includes the Obama 3.8% healthcare tax) and 7% to Connecticut. There are adjusted gross income (AGI) limits and carryforwards beyond the scope of this letter, but with the sale, Ajit's AGI in 2024 will include the realized gain in addition to his ordinary income paid by Berkshire.

Beyond Populism – Gaffes in Insurance

Got Talc? A conglomerate with hundreds of subsidiaries will invariably see some stumble. Mistakes are also common in any business. An unusual contingency (loss) was discussed in Berkshire's 2024 third quarter 10-Q filing. National Indemnity recorded a pre-tax \$535 million charge for a non-insurance affiliate who filed for bankruptcy, offset by a \$45 million recoverable from a third party. This was likely an expected bankruptcy of Whittaker, Clark & Daniels, a large talc and industrial compound supply and distribution business acquired by Berkshire and a partner in 2007. Berkshire purchased four talc-related companies in total at the time. The business had ceased operations in 2004 due to mounting talc and asbestos lawsuits. The company's sole purpose after closing its doors was resolving its rising legal claims. Several investors during that period invested in talc companies for the use of their investment assets as float as losses from lawsuits developed and were paid. Think of it like writing retroactive reinsurance (or even like nuclear decommissioning trusts), but it seems in this case without a hard cap on losses. At a point, presumably ultimate losses could be quantified and the company placed in bankruptcy, creating a pseudo cap. The disclosure in Berkshire's footnote was lacking in detail. I'd love to know what the purchase price, assets and float looked like from 2007 to 2024. That a \$490 pre-tax charge was taken suggests the bet didn't work out. It's likely this was an Ajit Jain deal. Whether his or not, I hope Ajit is asked to elaborate on the affair at this year's annual meeting.

En garde! Another recent insurance-related gaffe was likewise disclosed in Berkshire's latest 10-Q involving GUARD, a Wilkes-Barre based small and medium-sized commercial property and casualty insurer acquired in 2012 for \$221 million plus assumption of a \$48 million bank loan guarantee. At the time the deal closed GUARD was writing \$400 million in annual premiums. The acquisition gave the company access to more capital to grow. Fast forward to 2024 when the majority of \$789 million of 2023 reserve strengthening was related to GUARD. I believe total assets at GUARD are roughly \$4 billion. Whoops. Berkshire made a *management change* and disclosed writing less admitted homeowners' insurance in 2024. AM Best revised GUARD's outlook to negative in November and reported the reserve strengthening and deteriorating underwriting in 2023 and through September 2024 was not related to workers' compensation. Perhaps another question for Ajit, particularly as GUARD's deterioration occurred during an otherwise healthy underwriting cycle. These two losses on the talc deal and at GUARD are immaterial in the grand scheme of Berkshire's insurance operation but are a reminder how tough the industry is. Call this question two for Ajit.

Six Decades of Compounding

Berkshire's stock gained 25.5% in 2024 following a 15.8% return in 2023 and 4.0% gain in 2022, a year where the S&P 500 lost 18.1%.

We reported two years ago that Berkshire trailed the S&P in merely 4 of 58 compound time series in reverse. For each of the last two years there are 13 out of 59 intervals where Berkshire lagged. You can see the differences in the figures shaded red for Berkshire's stock price and green for the index in the 60-year performance table below. As discussed throughout the letter the index returned far above its long-run average for the last 15 years following the 2008-2009 Global Financial Crisis. Berkshire will no longer outperform the index during raging bull markets. Its returns are correlated to the business and its ongoing profitability, meaning the stock doesn't trade wildly above or below intrinsic value. It's not unreasonable for the index to outperform when measured from a market low. Berkshire dramatically outperformed the market over 2000-2002's three-year decline which sent the index price down 49% over three years. You might spot one conspicuous 22-year time series beginning at the end of 2002 where Berkshire's 10.7% lags the index's 11.2%. Other than that lone interval immediately following 2000-2002, Berkshire is ahead in every time series including and beyond 2008. As duration of time grows, so too does Berkshire's outperformance.

Measuring Berkshire's former preferred yardstick, per-share book value yields a consistent growth over time. Berkshire's growth in book value per share includes returns on the stock portfolio on an after-tax basis. Unrealized gains are offset with a correspondent deferred-tax liability. Only one interval exists over the last six decades when compounding backward from 2024. The three-year compound growth in book value per share averaged 9.4% over the past three years. The S&P over the same three years averaged 8.9% while Berkshire's stock advanced 14.7% annually over the three years.

Semper's decision to buy Berkshire in February 2000 was a good one. The stock had fallen by half from 1998 and the multiple to book receded from 3x to 1.05x. Berkshire returned 10.5% from year-end 1999 while the index earned 7.7%. Our experience with Berkshire is even better thanks to the price we paid in February. Our shares were bought at \$43,007 (seven bucks per share being the commission), when the stock was down 22% from the beginning of 2000 and by roughly half from when it acquired General Re in 1998. While Semper's stocks returned more than our shares in Berkshire from the time of our initial acquisition, there are plenty of times where Berkshire has helped our overall returns more than they have lagged. That's surely the case over the last two years, certainly in 2024. On the other hand, had we bought Berkshire at the outset of Semper it would have been not a bad decision but a terrible decision. Where our stocks returned 11.4% over 26 years, Berkshire's shares gained only 9.1% (all better than the S&P's 8.2%).

Berkshire's Performance page presents annual percentage change for three measures – book value per share, market value per share and S&P 500 total return. The figures are augmented with compound growth series from 1965 and backward from 2024. Hence, the 1-year, 2-year all the way to 60-year returns are all easily ascertained.

Interpreting the table is straightforward. The three components, change in book value per share and total returns for Berkshire's shares and for the S&P 500 have three columns associated with each. Compare the first column in each set of three columns with the first column for the others, then compare the middle columns with the middle columns and the third columns with the third columns. The first column in each set of three is the annual percentage change. Thus, for 2024 Berkshire's book value gained an expected 15.4%, the stock price gained 25.5% and the S&P 500 earned 25.0%.

The next, or middle column for each set, is the reverse compound annual return series. These figures are *italicized* and show the 1-year return, 2-year return, 3-year return and so forth, all the way up the page to the 60-year return. I added the second column showing the *1yr, 2yr...* in the table to make it easier to locate the yearly compound returns from each other. Now if you want the *40yr* return it's easy to identify as 1986 and you are comparing the next three italicized figures.

To illustrate, using the row for 2005, Berkshire's *20yr* compound annual change in book value per share is 11.0%, the stock averaged 10.8% while the index gained 10.4% per year. The italicized figure at the top of the table in each column labeled "CAGR from 2024" thus is the annualized return from the outset. So, Berkshire compounded book value by 18.2% for 60 years as the stock averaged 19.9% against only 10.4% for the index. This is where you can tell your friends that Berkshire's stock can decline 99.4% and still will have outperformed the S&P 500 for six decades. I can hear Charlie scoffing now, "Chris, that's just simple compound interest."

These three italicized figures for year 1965 at the top of the page match exactly the bottom "CAGR from 1965" numbers seen in the third of each of the three columns. This third column begins with 1965's return and shows the compound annual return for each yearly period beginning at the outset. Thus, at the end of 1998 (underlined), book value per share had compounded by 24.7%, the stock averaged 28.7% and the S&P returned only 12.1%.

Berkshire's Performance vs. the S&P 500: Annual returns + Growth Rates Forward & Backward

Year		Book Value per Share	CAGR From 2024	CAGR From 1965	Market Value per Share	CAGR From 2024	CAGR From 1965	S&P 500 with Dividends Included	CAGR From 2024	CAGR From 1965
1965	60yrs	23.8%	18.2%	23.8%	49.5%	19.9%	49.5%	10.0%	10.4%	10.0%
1966	59yrs	20.3%	18.1%	22.0%	-3.4%	19.4%	20.2%	-11.7%	10.4%	-1.4%
1967	58yrs	11.0%	18.0%	16.7%	13.3%	19.8%	16.4%	30.9%	10.8%	7.7%
1968	57yrs	19.0%	18.2%	17.3%	77.8%	20.1%	28.6%	11.0%	10.5%	8.4%
1969	56yrs	16.2%	18.2%	17.1%	19.4%	19.2%	26.8%	-8.4%	10.5%	5.0%
1970	55yrs	12.0%	18.3%	16.2%	-4.6%	19.2%	21.1%	3.9%	10.9%	4.8%
1971	54yrs	16.4%	18.4%	16.3%	80.5%	19.7%	28.0%	14.6%	11.1%	6.1%
1972	53yrs	21.7%	18.4%	16.9%	8.1%	18.8%	25.4%	18.9%	11.0%	7.6%
1973	52yrs	4.7%	18.4%	15.5%	-2.5%	19.0%	22.0%	-14.8%	10.8%	4.9%
1974	51yrs	5.5%	18.6%	14.5%	-48.7%	19.5%	12.1%	-26.4%	11.4%	1.4%
1975	50yrs	21.9%	18.9%	15.1%	2.5%	21.5%	11.2%	37.2%	12.3%	4.1%
1976	49yrs	59.3%	18.9%	18.2%	129.3%	21.9%	18.0%	23.6%	11.9%	5.6%
1977	48yrs	31.9%	18.1%	19.2%	46.8%	20.3%	20.0%	-7.4%	11.7%	4.5%
1978	47yrs	24.0%	17.9%	19.5%	14.5%	19.8%	19.6%	6.4%	12.1%	4.7%
1979	46yrs	35.7%	17.7%	20.5%	102.5%	19.9%	23.8%	18.2%	12.2%	5.5%
1980	45yrs	19.3%	17.4%	20.5%	32.8%	18.6%	24.3%	32.3%	12.1%	7.0%
1981	44yrs	31.4%	17.3%	21.1%	31.8%	18.3%	24.7%	-5.0%	11.7%	6.3%
1982	43yrs	40.0%	17.0%	22.0%	38.4%	18.0%	25.5%	21.4%	12.1%	7.0%
1983	42yrs	32.3%	16.5%	22.6%	69.0%	17.5%	27.4%	22.4%	11.9%	7.8%
1984	41yrs	13.6%	16.1%	22.1%	-2.7%	16.5%	25.7%	6.1%	11.6%	7.7%
1985	40yrs	48.2%	16.2%	23.2%	93.7%	17.0%	28.3%	31.6%	11.8%	8.7%
1986	39yrs	26.1%	15.5%	23.3%	14.2%	15.5%	27.6%	18.6%	11.3%	9.1%
1987	38yrs	19.5%	15.2%	23.2%	4.6%	15.5%	26.5%	5.1%	11.1%	9.0%
1988	37yrs	20.1%	15.1%	23.0%	59.3%	15.8%	27.8%	16.6%	11.3%	9.3%
1989	36yrs	44.4%	15.0%	23.8%	84.6%	14.8%	29.6%	31.7%	11.1%	10.1%
1990	35yrs	7.4%	14.2%	23.2%	-23.1%	13.3%	27.1%	-3.1%	10.6%	9.6%
1991	34yrs	39.6%	14.4%	23.7%	35.6%	14.6%	27.4%	30.5%	11.0%	10.3%
1992	33yrs	20.3%	13.7%	23.6%	29.8%	14.0%	27.5%	7.6%	10.5%	10.2%
1993	32yrs	14.3%	13.5%	23.3%	38.9%	13.5%	27.8%	10.1%	10.6%	10.2%
1994	31yrs	13.9%	13.5%	22.9%	25.0%	12.8%	27.7%	1.3%	10.6%	9.9%
1995	30yrs	43.1%	13.5%	23.5%	57.4%	12.4%	28.6%	37.6%	10.9%	10.6%
1996	29yrs	31.8%	12.6%	23.8%	6.2%	11.1%	27.8%	23.0%	10.1%	11.0%
1997	28yrs	34.1%	12.0%	24.1%	34.9%	11.3%	28.0%	33.4%	9.7%	11.6%
1998	27yrs	48.3%	11.2%	24.7%	52.2%	10.5%	28.7%	28.6%	8.9%	12.1%
1999	26yrs	0.5%	10.0%	24.0%	-19.9%	9.1%	27.0%	21.1%	8.2%	12.3%
2000	25yrs	6.5%	10.4%	23.5%	26.6%	10.5%	27.0%	-9.1%	7.7%	11.7%
2001	24yrs	-6.2%	10.6%	22.6%	6.5%	9.9%	26.4%	-11.9%	8.5%	11.0%
2002	23yrs	10.0%	11.4%	22.2%	-3.8%	10.0%	25.5%	-22.1%	9.5%	10.0%
2003	22yrs	21.0%	11.4%	22.2%	15.8%	10.7%	25.2%	28.7%	11.2%	10.4%
2004	21yrs	10.5%	11.0%	21.9%	4.3%	10.5%	24.6%	10.9%	10.4%	10.4%
2005	20yrs	6.4%	11.0%	21.5%	0.8%	10.8%	24.0%	4.9%	10.4%	10.3%
2006	19yrs	18.4%	11.3%	21.4%	24.1%	11.3%	24.0%	15.8%	10.7%	10.4%
2007	18yrs	11.0%	10.9%	21.1%	28.7%	10.7%	24.1%	5.5%	10.4%	10.3%
2008	17yrs	-9.6%	10.9%	20.3%	-31.8%	9.7%	22.4%	-37.0%	10.7%	8.9%
2009	16yrs	19.8%	12.3%	20.3%	2.7%	13.0%	22.0%	26.5%	14.6%	9.3%
2010	15yrs	13.0%	11.8%	20.2%	21.4%	13.7%	22.0%	15.1%	13.9%	9.4%
2011	14yrs	4.6%	11.7%	19.8%	-4.7%	13.2%	21.3%	2.1%	13.8%	9.2%
2012	13yrs	14.4%	12.3%	19.7%	16.8%	14.7%	21.2%	16.0%	14.8%	9.4%
2013	12yrs	18.2%	12.1%	19.7%	32.7%	14.5%	21.5%	32.4%	14.6%	9.8%
2014	11yrs	8.3%	11.6%	19.4%	27.0%	13.0%	21.6%	13.7%	13.2%	9.9%
2015	10yrs	6.4%	11.9%	19.2%	-12.5%	11.7%	20.8%	1.4%	13.1%	9.7%
2016	9yrs	10.7%	12.5%	19.0%	23.4%	14.7%	20.8%	12.0%	14.5%	9.7%
2017	8yrs	23.0%	12.8%	19.1%	21.9%	13.7%	20.9%	21.8%	14.8%	9.9%
2018	7yrs	0.4%	11.4%	18.7%	2.8%	12.6%	20.5%	-4.4%	13.8%	9.7%
2019	6yrs	23.0%	13.3%	18.8%	11.0%	14.3%	20.3%	31.5%	17.2%	10.0%
2020	5yrs	9.8%	11.5%	18.6%	2.4%	14.9%	20.0%	18.4%	14.5%	10.2%
2021	4yrs	19.5%	11.9%	18.6%	29.6%	18.3%	20.1%	28.7%	13.6%	10.5%
2022	3yrs	-3.7%	9.4%	18.2%	4.0%	14.7%	19.8%	-18.1%	8.9%	9.9%
2023	2yrs	18.0%	16.7%	18.2%	15.8%	20.5%	19.8%	26.3%	25.7%	10.2%
2024	1yr	15.4%	15.4%	18.2%	25.5%	25.5%	19.9%	25.0%	25.0%	10.4%

*Internally estimated BRK BVPS

Fiscal years 1965 and 1966 end September 30. 1967 is five quarters ended December 31. S&P 500 returns are likewise adjusted.

The year 1998 and related figures are underlined to emphasize to emphasize Berkshire's pivot away from its extremely overvalued stock portfolio. Acquiring General Re in 1998 and their enormous fixed-income portfolio reduced the stock portfolio concentration from 115% of book value and 65% of assets to 65% of book value and 30% of assets. The pivot allowed Berkshire to divert material proportionate surplus capital away from common stocks and to wholly owned businesses like BHE and BNSF. BHE was acquired one year after the General Re purchase. From that point, book value per share compounded *faster* than Berkshire's stock, which itself compounded *faster* than the stock portfolio, which in turn *outperformed* the S&P 500. By my math, had Berkshire not acquired General Re using its stock as currency in the deal, Berkshire would be worth roughly half of its current value. Using Berkshire's shares as currency at 3x book value was genius, evidenced simply by its 1.5x multiple at year-end 2024. There were myriad advantages to the deal for Berkshire.

Since the table illustrates both forward and backward compound returns, the 25.5% stock price return for 2024 matches the *1yr* 25.5% annual return in the second column. Logically, Berkshire's 49.5% gain in 1965 becomes the one-year return in the "CAGR from 1965" third column.

Berkshire, like any company, should see total returns from the stock match fundamental returns from the business on a per share basis over time. Berkshire pays no dividend, so its returns are all derived via the stock price. The 1.6% annual disparity between Berkshire's 18.2% compound gain in book value per share with its 19.9% stock market return is largely the expansion from the stock beginning at 64.7% of book value in September 1964 and ending closer to 151% of book at year-end 2024, more than doubling of the multiple to book value over 60 years, or 133% of premium return in the stock versus book value. Book value per share was \$19.46 at the outset of fiscal year 1965 while the stock traded for ~\$12.59 as I estimate it. Plug and play these beginning values into any subsequent time series and the results are impressive. Over decades the results are staggering.

A tight correlation between growth in book value per share and market value per share (no dividends save the single quarterly dime paid in 1967) can be seen in the table below.

10-Years Ended	Avg. Book Value per Share Growth	Avg. Market Value per Share Growth	Avg. S&P 500 Total Return
1984	30.4%	41.4%	14.6%
1994	24.7%	31.9%	14.4%
2004	18.7%	15.7%	12.1%
2014	10.1%	9.9%	7.7%
2024	11.9%	11.7%	13.1%

From 2024	Book Value per Share Growth	Market Value per Share Growth	S&P 500 Total Return
10-year CAGR	11.9%	11.7%	13.1%
20-year CAGR	11.0%	10.8%	10.4%
30-year CAGR	13.5%	12.4%	10.9%
40-year CAGR	16.2%	17.0%	11.8%
50-year CAGR	18.9%	21.5%	12.3%
60-year CAGR	18.2%	19.9%	10.4%

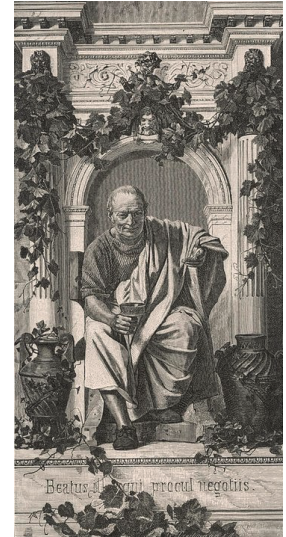
Provided book value per share continues as a meaningful measure, changes in book value per share and in the stock price over time will correlate to Berkshire's growth in per-share earning power. Deriving how much Berkshire earns in economic terms is a process which requires effort. I like to think our clients and readers of this annual letter are given a framework for understanding the sources of Berkshire's earnings and how it goes about reinvesting those earnings.

Six Decades of Moving Money – Capital Allocation

“Many shall be restored that are now fallen, and many shall fall that are now in honor.” – Epigraph introducing Benjamin Graham’s Security Analysis, from Horace’s Ars Poetica

“Don’t pass up something that’s attractive today because you think you will find something better tomorrow.” – Warren Buffett

“Opportunities come infrequently. When it rains gold, put out the bucket, not the thimble.” – Warren Buffett



Warren Buffett acquired a struggling textile operation in New England in 1965 for an average of \$14.86 per share. The business had a \$22 million net worth, a history of operating losses, no excess cash, \$2.5 million owed to the bank and every dollar of capital in the business required to run the flailing core textile business. Over time, Berkshire Hathaway has undergone dramatic change.

Recognizing quickly that the textile business was no good, it closed mills and ceased investing for growth. It made an early pivot to insurance, buying National Indemnity in 1967 for \$8.6 million and using insurance reserves and holding company capital to acquire stocks, even borrowing \$20 million in 1973 to take advantage of the 1973 to 1974 bear market. The failing textile operation was shuttered in 1985. Berkshire made two additional early investments besides the textile business – forming Diversified Retailing and later buying Blue Chip Stamps. Both were flops and were extremely large investments relative to Berkshire’s size at the time. In both cases, Berkshire realized its mistakes and shifted capital opportunistically from the failing to superior assets.

There are only a handful of capital allocation tools available to company managements. Berkshire has employed every one of them masterfully over its six decades under the stewardship of present management. National Indemnity would become the cornerstone of Berkshire and the largest reinsurer in the world by capital, not by premium volume. Another early investment in See’s Candies was a resounding success and provided a valuable lesson – management soon learned that the business had little runway to grow out of its west coast geography. Most profits earned over half a century were not reinvested in See’s but instead reallocated by Berkshire. On cumulative invested capital of roughly \$65 million See’s has earned more than \$2 billion for Berkshire over the years since its 1972 acquisition.

Berkshire shifts capital from the weak to the strong. It has issued shares when fully or overvalued in acquisitions of other companies. It has bought back shares when undervalued and no better opportunity was available. Berkshire uses debt, but only when appropriate and never to excess. Investing in common stocks served Berkshire extremely well and over time outperformed the stock market by miles. The use of insurance float amplifies returns and generally comes at a negative cost.

One tool Berkshire does not employ is payment of a dividend. It paid one \$0.10 quarterly dividend and realized it was better retaining all profits and reinvesting like it knew how. Berkshire had precisely one million shares outstanding in 1967 (only 43% higher today, the increase from acquisitions using Berkshire shares as currency and the issuance of the “B” shares in 1996). The dime dividend therefore cost Berkshire \$100,000 in 1967. Shareholders’ equity would be higher today by \$2.5 billion had they not paid it. Berkshire would be worth a fraction of what it’s worth today had they adopted a conventional strategy of distributing some percentage of profits as dividends every year.

Berkshire occasionally uses its shares as currency in making acquisitions but has not done so since partially financing its 2010 purchase of BNSF with stock. It acquired General Re using \$22 billion worth

of Berkshire shares trading for nearly three times book value in 1998. The stock traded for north of two times book value during the 1990s and Berkshire spent it buying five businesses before it bought General Re: Dexter Shoe, Helzberg, R.C. Willey, FlightSafety and Dairy Queen. After buying General Re it also acquired Executive Jet, U.S. Liability and Shaw through 2002 using shares, with the stock at sizable premiums to book value. Anybody in a position of allocating capital, particularly executive management and boards of directors, would be wise to study the history of acquisitions made by Berkshire, particularly how they were financed, what Berkshire was worth at the time, what they got, what they gave up, and how the deals fared over time. I know people sitting on public company boards of directors that can't adequately describe the difference between a stock and a bond.

The Tools of Capital Allocation Available to Management

- Internal Spending: Capex, R&D, Advertising
- Dividends: Pay / Increase or Reduce / Suspend
- Debt: Pay Down or Take on New, Including Shifting Terms
- Acquisitions: Using Company Stock, Cash, Debt, or a Combination
- Repurchase Shares: Open Market and Via Tender Offer
- Issue Shares: Sell to Raise New Capital; Issue to Executives (a C-Suite Favorite)

Berkshire allocates cash earned from its operations (or the portion of economic profit earned as cash) in four primary activities.

1. Share Repurchases: Over the past five years Berkshire has repurchased its shares at material discounts to intrinsic value (it spends shares on acquisitions but only when the stock isn't undervalued);
2. Net Purchases of Common Stocks: Using Berkshire's growing insurance reserves and surplus capital in the insurance operation;
3. Acquisitions: It acquires entire businesses or partial controlling interests in entire businesses. Some deals are substantial while some are smaller bolt-on acquisitions for its myriad operating subsidiaries; and
4. Fixed Assets – Growth Capital Expenditures: Finally, Berkshire invests capital in fixed assets to grow its energy operation and elsewhere beyond maintenance requirements. The energy business *retains all profit* and on a roughly dollar-for-dollar basis augments all retained earnings with a like amount of debt. The combination of equal portions equity and debt capital finance expansion of power generation and distribution on a regulated return basis, much of which is heavily subsidized with tax credits and incentives for capital spending.

Whether using cash flow from operations or my definition of GAAP-adjusted economic earnings, a portion of Berkshire's "profit" is already accounted and not available for Berkshire's direct use on capital allocation activities. To illustrate, cash flow from operations will total an expected \$55.3 billion in 2024, \$6.1 billion more than in 2023.

Semper's estimate of economic earning power at year-end 2024 is \$61.1 billion. Cash flow from operating activities includes depreciation expense. While it's a non-cash expense, every bit of it is real in Berkshire's case. I generally assume maintenance capital expense at Berkshire roughly matches depreciation expense, a relationship that held over time. However, given higher inflation over the last several years, the cost of maintenance capital expenditures is now higher than depreciation expense because depreciation is calculated on the historic cost of assets. This is a pervasive issue little recognized by investors and by too many managements. More resources diverted to maintenance capex means fewer resources for things like share repurchases (the last item on the cutting block, make that the only item never on the cutting block, is executive compensation).

You won't find regular charges against assets, equity and earnings at Berkshire. Where S&P 500 companies wrote off 15% operating earnings since the mid-1980s, they are extremely rare at Berkshire. Maintenance capital must be spent from operating cash flow and is thus removed from discretionary spending as we think about it and show it as such in the table below. An estimated \$55.3 billion in operating cash flow for 2024 is reduced by \$11.0 billion in depreciation expense leaving just north of \$44.3 billion for capital allocation. Per the comments above on inflation, some portion of the \$8.7 billion and \$8.8 billion shown for growth capex is realistically an obligation directed to maintenance.

It's reasonable to think about investable cash at the current rate of approximately \$11 billion a quarter holding debt outstanding and cash balances constant. On cash balances, there are moments like now where Berkshire's reserves will ultimately lead to it spending far more than investable cash flow in a year or over a few years. Cash tends to rise when Berkshire sells net stocks and vice versa. 2024 is a dramatic illustration of this.

The Investable Cash Flow and Capital Allocation table dates to 2018 when Berkshire started buying back shares (during this latest cycle). Berkshire is opportunistic and there is hence a lumpiness to when Berkshire lays out cash (or hauls it in) in certain areas in any individual year that lends to analysis over a longer timeframe. The table presents the last seven years in aggregate and as an average. Berkshire spent far more than investable cash flow in 2022 (meaning cash balances were drawn down). Growth capex consistently grows with little volatility. Share repurchases are opportunistic. The big swing factor over the past three years was net purchases of common stocks. Berkshire bought a net \$34.3 billion in 2022 when the market was routed. It then sold \$22.2 billion in 2023 and an estimated huge net \$127.4 billion last year as stocks rose. The timing of when Berkshire is active in the stock market is uncanny. The term "Buy low, sell high," was not coined at Berkshire, but they get it.

Berkshire Hathaway Investable Cash Flow and Capital Allocation 2018-2024; Dollars in Billions

	Past 7 years	Average	2024 (e)	2023	2022	2021	2020	2019	2018
Cash Flow from Operations	297.0	42.4	55.3	49.2	37.2	39.4	39.8	38.7	37.4
Depreciation/Maintenance Capex	67.3	9.6	11.0	10.7	9.7	9.5	9.3	8.7	8.4
Investable Cash Flow	229.7	32.8	44.3	38.5	27.5	29.9	30.5	30.0	29.0
Capital Allocation	45.2	6.5	-115.4	2.4	58.6	24.0	22.3	18.1	35.2
Berkshire Share Buybacks	78.0	11.1	2.9	9.2	7.9	27.1	24.7	4.9	1.3
Growth Capex	44.2	6.3	8.7	8.8	5.8	3.8	3.7	7.2	6.2
Acquisitions of Businesses	27.6	3.9	0.4	8.6	10.6	0.5	2.5	1.7	3.3
Net Purchases of Common Stocks	-104.6	-14.9	-127.4	-24.2	34.3	-7.4	-8.6	4.3	24.4
Other	-6.2	-0.9	5.6	-4.1	-4.8	-3.3	4.7	1.9	-6.2
Net Proceeds from Debt	11.0	1.6	-4.1	-1.1	8.2	-0.8	6.8	6.1	-4.1
Net Change in Cash	201.7	28.8	150.0	39.1	-18.1	8.4	10.3	16.1	-4.1

Source: Berkshire Hathaway 10-K filings; Semper Augustus Calculations

Berkshire produced \$297 billion in cash flow from operations over the past seven years. Maintenance capital expense viewed as depreciation expense sent \$67.3 billion out the door, leaving about \$230 billion remaining of investable cash flow for capital allocation. Excluding the net \$151 billion in stocks sold over the last two years it spent \$197 billion cumulatively over seven years, or an average \$28 billion per year. I expect at the next turn of crisis we'll see Mount Berkshire deployed and our capital allocation figure surge beyond investable cash flow.

Share Buybacks

Share buybacks slowed in 2022 and 2023 and then really turned down in 2024. The stock was fundamentally cheaper in 2020 and 2021 when Berkshire spent a combined \$51.8 billion or 86% of investable cash flow purchasing shares. Over the last seven years the company spent \$78 billion retiring 12.6% of its outstanding shares and consuming 34% of investable cash flow, which is, again, after depreciation expense. Our next section forecasting the next ten years of returns features a table illustrating how the stock will fare under multiple scenarios of profitability, in all cases spending half of economic earnings repurchasing shares. Perhaps the best way to view Berkshire's share repurchases is as a proportion of investable cash flow. Semper's estimation of economic earnings correlates to cash flow from operations. As Berkshire grows and the opportunity set diminishes simply for size, provided Berkshire's shares occasionally trade at sizable discounts to intrinsic value, expect sizable repurchases relative to either economic earnings or investable cash flow.

Berkshire is simply more intelligent in repurchasing shares compared with, well, everyone. Berkshire's share repurchases retired 12.6% of outstanding shares since 2018, 1.8% of their outstanding shares per year. The aggregate of the S&P 500 spends a far larger portion of cash from operations purchasing shares. Over the past decade they have retired 0.6% of outstanding shares. Over the past quarter century, despite spending more than half of cash flow from operations on share repurchases didn't dent the share count. No change. Zip Stated more clearly, Berkshire spent a fraction of investable cash flow versus the index companies and bought back three times as much of its outstanding shares. Everybody allocates capital. Few do it well. Nobody does it the Berkshire way except Berkshire. If you own the S&P 500 or companies that spend prodigiously buying back shares and barely reducing the share count, this paragraph was for you.

Growth Capex

Berkshire spent \$111.4 billion on capital expenditures over the last seven years, Depreciation expense totaled \$67.3 billion, suggesting expenditures on growth initiatives totaled about \$44.2 billion (minus perhaps \$2 to \$3 billion for inflationary-induced maintenance), or \$6.3 billion per year. Growth capex at BHE consumed more than two-thirds of the total.

The energy operation consists of three electric utilities and a wide-spanning network of energy pipelines and other distribution assets. Rapid expansion of wind and solar generating capacity and the new electric grid needed to send power from remote locations to where it is needed is consuming large amounts of capital at good regulated and predictable returns. Total BHE capex of \$8.8 billion will exceed depreciation charges by \$4.9 billion.

A table in the appendix tracks capital expenditures, depreciation and the difference between the two since 2004 for BHE, BNSF, BHE and BNSF combined and for all of Berkshire. BHE and BNSF spend most of the capex at Berkshire. Over the past two decades, half of Berkshire's total capex was spent in the energy operation, half of which was growth.

Berkshire's conventional energy assets are properly maintained with maintenance capital expenditures, but it's the retention of earnings and ongoing investment in heavily subsidized and regulated power creation assets that will make BHE Berkshire's second largest operation in just a few years. I say this with a caveat. Renewable energy is intermittent and inefficient. Concerns of climate change in Europe and North America made increasing renewable power a public policy mandate, with much of the bill financed by taxpayers. In addition to being inefficient it's expensive. *It's also hypocritical in that China is not remotely held to environmental standards.* See the section on energy in Semper's 2021 annual letter, *Brown Sugar*. Power prices are materially higher in the west. Germany closed all 17 of its nuclear plants.

There is an underswell of pushback against the race to a carbon-free or carbon-neutral power infrastructure, certainly on prescribed timelines. The point is BHE's outlays for wind, solar and the grid absorb a substantial sum that comes with a decently profitable regulated but predictable return. If public policy shifts away from investing in renewables at the scale we are, a risk exists that tax credits abate. In that event, Berkshire's utilities will still earn decent returns on invested capital but the ability to continue investing at present rates may disappear. Stay tuned as the political winds appear to be shifting.

Additional growth capital expenditures were spent in the immediate years following Berkshire's purchase of BNSF in 2010. Adding capacity to its network, expanding tunnels to accommodate dual-stacked intermodal traffic and adding multiple rails of track in heavily traversed corridors greatly improved the capacity and efficiency of the railroad. From 2011 to 2015 the railroad spent nearly three dollars in capital expenditures for each dollar of depreciation. The rail is now only spending 40% on average above depreciation. There is little more that the railroad can do on the growth front. Expenditures will be flat when reported for 2024, with \$3.9 billion of capex on \$2.65 billion in depreciation expense. Maintenance capex will always run somewhat higher than depreciation in railroads. Growth capex at the railroad will *decline* by perhaps 5% in 2024. BNSF economically earns more than 13% on equity capital when profits are not depressed as at present. Equity includes nearly \$15 billion in goodwill from the acquisition. The railroad would not be nearly as profitable without Berkshire having committed as much growth capex in its early years of ownership. No longer, however, will the rail be a big source of accretive capital allocation.

The balance of growth capex is spent among Berkshire's myriad manufacturing and service businesses. The leasing operation provides a terrific use of capital. Total firmwide capital expenditures should total \$19.7 billion when reported for 2024 with \$8.9 billion of that geared for growth.

Net Purchases of Common Stocks

Berkshire's common stock portfolio is held in the insurance investment portfolio with a few small exceptions (BYD and some pension and rabbi trusts at BHE as examples). Occasionally it is a net buyer and sometimes a net seller. It was a sizable buyer in 2022, spending a net \$34.3 billion as the stock market declined during the year. As prices lifted in 2023, Berkshire sold \$24.2 billion and then net shed the gargantuan \$127 billion last year. Over the last seven years it liquidated \$104 billion net. 2024's large sale of Apple amazingly tilted portfolio activity from \$40 billion in net purchases since 1997 to an \$88 billion net seller over more than a quarter century.

Berkshire was a net seller in four of the last seven years. Years involving large net purchases were 2022 and 2018, which happen to be the two years when the stock portfolio and the stock market declined in value. The portfolio traded for 12.4x earnings at the end of 2018 and 19.5x at year-end 2024. It just so happens that Berkshire was a net seller of stocks in 2020 and 2021, not coincidentally the two years when it was the largest net buyer of its own stock. The cumulative history of portfolio activity is fascinating. Berkshire acquired General Re in 1998 and in doing so shrunk the stock portfolio from 115% of book value to 65% of book value, and from 65% of assets to 30% of total assets at year-end 1998. From that point forward, stocks have averaged 55% of equity and 25% of assets. At year-end 2024, due to massive liquidation during the year, stocks total 57% of equity (closely matching the period from 1997) but down from 72% in 2021. The 72% in 2021 was the highest since the General Re purchase closed. Similarly, stocks at year-end 2024 are 24% of total firm assets, close to the 25% quarter-century average and down from 38% in 2021. 2021's allocation of stocks to firm assets was likewise the high since pre-General Re's 65% of firm assets, almost exactly where they were in 1998. Everything is bigger of course. The stock portfolio is now \$285 billion versus \$37 billion in 1998.

Progression of Berkshire Stock Portfolio as a Percent of Book Value and Assets

Year	Stocks	Cost Basis	Unrealized Gain/Loss	Realized Gain	Net Purchases	Net as % of Avg	Equity	Stocks as % of Equity	Total Assets	Stocks as % of Assets
1997	\$36,248	\$7,207	\$29,041	\$1,106	-\$1,302	-4.1%	\$31,455	115%	\$56,110	65%
1998	37,265	7,044	30,221	2,415	-2,823	-7.7%	57,403	65%	122,237	30%
1999	37,008	8,203	28,805	1,247	-691	-1.9%	57,761	64%	131,416	28%
2000	37,619	10,402	27,217	4,499	-2,725	-7.3%	61,742	61%	135,792	28%
2001	28,675	8,543	20,132	1,488	-2,806	-8.5%	57,950	49%	162,752	18%
2002	28,363	9,164	19,199	918	416	1.5%	64,037	44%	169,544	17%
2003	35,287	8,515	26,772	4,129	6,765	21.3%	77,596	45%	180,559	20%
2004	37,717	9,056	28,661	3,471	-578	-1.6%	85,900	44%	188,874	20%
2005	46,721	15,947	30,774	5,408	6,392	15.1%	91,484	51%	198,325	24%
2006	61,533	22,995	38,538	2,635	5,395	10.0%	108,419	57%	248,437	25%
2007	74,999	39,252	35,747	5,509	11,057	16.2%	120,733	62%	273,160	27%
2008	49,073	37,135	11,938	-7,461	3,300	5.3%	109,267	45%	267,399	18%
2009	59,034	34,646	24,388	787	-1,056	-2.0%	131,102	45%	297,119	20%
2010	61,513	33,733	27,780	2,346	-1,621	-2.7%	157,318	39%	372,229	17%
2011	76,991	48,209	28,782	-830	1,497	2.2%	164,850	47%	392,647	20%
2012	87,662	49,796	37,866	3,425	-712	-0.9%	187,647	47%	427,452	21%
2013	117,505	56,581	60,924	6,673	4,689	4.6%	220,959	53%	484,624	24%
2014	117,404	55,056	62,414	4,081	1,118	1.0%	239,239	49%	525,867	22%
2015	136,017	68,412	67,605	10,347	1,473	1.2%	254,619	53%	552,257	25%
2016	150,432	75,628	74,804	8,304	-11,596	-8.1%	282,070	53%	620,854	24%
2017	195,840	84,476	111,364	2,128	814	0.5%	348,296	56%	702,095	28%
2018	186,764	112,667	74,097	3,300	24,427	12.8%	348,703	54%	707,794	26%
2019	258,527	120,140	138,387	3,200	4,306	1.9%	424,791	61%	817,729	32%
2020	292,257	118,420	173,837	6,200	-8,595	-3.1%	443,164	66%	873,729	33%
2021	363,779	114,405	249,374	3,600	-7,401	-2.3%	506,199	72%	958,784	38%
2022	322,117	143,116	179,001	769	34,266	10.0%	472,360	68%	948,452	34%
2023	365,126	123,640	241,486	5,000	-24,169	-7.0	561,273	65%	1,069,978	34%
2024	285,351	112,187	173,164	97,100	-127,409	-39.1%	645,663	57%	1,167,961	24%

Source: Berkshire Hathaway; Semper Augustus Calculations

Elaborating on the remarkable point that since 1998 net purchases of common stocks totaled only \$40 billion as of a year ago and by 2024's close Berkshire net sold \$87.5 billion. That's something given the size of the stock portfolio. There is clearly an allocation to stocks relative to capital and assets to which Berkshire is comfortable. The range doesn't move much after General Re's reallocation. One would think net purchases would be much larger given growth in the stock portfolio, firm assets and shareholder equity since 1998. Portfolio activity no doubt buys the cheap and trims the dear (or makes room for other investments). Portfolio growth is likely sufficient to keep the allocation in line with where Berkshire wants it. Don't expect big ongoing net purchases from investable cash flow unless stock prices decline as they did in 2022. Then when prices rise quickly you can expect net sales. In evaluating the times when Berkshire has been a big net buyer, it's at times of market weakness.

Apple was half of Berkshire's stock portfolio a year ago. From last year's letter:

Apple is clearly expensive, and I hope the position gets trimmed materially. However, with Apple at 30x to earnings the other half of the portfolio trades for 13.6x. Three of the four largest positions after Apple trade for low multiples. Perhaps Bank of America and Chevron won't trade for much higher valuations and American Express is only modestly undervalued so who knows. As long as earning power for the half of the portfolio that's not Apple is durable, predictable and growing, and it is on all three counts, then an aggregate 13.6x multiple and commensurate 7.4% earnings yield is most likely undervalued. The nosebleed section of the market rests in a handful of companies. Apple happens to be one of them.

We got our wish when Berkshire used a machete slicing two-thirds of its Apple during 2024. The Apple investment initiated with a Johnny Appleseedesque \$1 billion even purchase in 2016's first quarter. The seed bloomed to a more than 1 billion-share position by the end of 2018 with a \$36 billion cost basis. The

position was acquired at an average \$35.30 cost per share, roughly a 10x multiple to earnings net of cash in the business. The \$36 billion investment roughly tripled in value by 2020 including dividends and Berkshire trimmed about 10% of its position, selling about 100 million shares.

Following the 2020 trim, both Warren and Charlie said the sale was a mistake and suggested the remainder of the investment would essentially be permanent. Apple's shares marched higher and as we noted last year were very expensive. The stock climbed further in 2024, rising 31% in price over the year, closing the year trading for more than 35x to earnings. Nobody understands the relationship between price and value more than Warren Buffett. The then 93-year-old capital allocator changed his mind on Apple's permanence and sold 600 million shares in 2024 for well over \$100 billion, reducing the holding to 300 million shares. The position will close 2024 at \$75 billion, still Berkshire's largest common stock market holding, but materially downsized. Apple's revenues are unchanged over the last two years and profits are merely 6% higher. Much of Berkshire's gain on its investment was due to multiple expansion from 10x to more than 30x. Had Berkshire not sold a single share, its peak 1.02 billion share investment would be worth \$255 billion, not much less than the entire value of the 2024's year-end stock portfolio. Berkshire clearly prefers more cash than more Apple these days. We are elated with the sale and anticipate seeing where the proceeds are eventually allocated.

Berkshire's Eight-Year Ownership of Apple (2016-2024)

Date	Shares (millions)	Cost Basis (millions of USD)	Cost Basis per Share	Market Value (millions of USD)	Market Value per Share
Q1 2016	39.2	\$1,000	\$25.48	\$1,069	27.25
Q4 2016	245.0	6,747	27.54	7,093	28.95
Q4 2017	666.9	20,961	31.43	28,213	42.31
Q4 2018	1021.2	36,044	35.30	40,271	39.43
Q4 2019	1003.5	35,287	35.17	73,667	73.41
Q4 2020 *	907.6	31,089	34.25	120,424	132.68
Q4 2021	907.6	31,089	34.25	161,155	177.56
Q1 2022	911.4	31,756	34.84	159,137	174.61
Q2 2022	915.3	32,360	35.36	125,135	136.72
Q4 2022 **	915.6	32,404	35.39	118,964	129.93
Q4 2023 **	905.6	32,050	35.39	174,355	192.53
Q1 2024 **	789.4	27,938	35.39	135,368	171.48
Q2 2024 **	400.0	14,156	35.39	84,256	210.62
Q3 2024 **	300.0	10,617	35.39	69,900	233.00

*All shares adjusted for 4-for-1 split in 2020

**New basis calculated using average cost method

Acquisitions of Businesses

Berkshire spent \$27.6 billion over the seven years under review making a few bolt-on acquisitions. The deal category was devoid of activity in 2024 apart from buying the 8% of BHE owned by Walter Scott (not included in the table since Berkshire issued \$1 billion of its shares while BHE laid out the larger portion as cash). The largest of recent acquisitions was 2022's purchase of insurance competitor Alleghany for \$11.6 billion cash, smallish in the grand scheme of Berkshire but meaningful to the insurance operation and what Berkshire can do with Alleghany's three insurers and other assets. A \$100 billion acquisition would be on par with Berkshire's purchase of BNSF in 2010 as firm assets quadrupled while shareholder equity is more than five times as great. And then there's Mount Berkshire and its \$317 billion or so, at least two-thirds of which is dry powder.

An insane mountain of private equity and venture money is in competition to put money to work. Berkshire also has the issue of size. There aren't many \$100 billion elephants roaming around. Given investable cash flow pushing \$50 billion today, Berkshire doesn't require elephants. Bagging one would be nice but blocking and tackling serves the company just fine. Berkshire buys knowable and predictable durable earning power, but only does so when the price is right. When faced with control premiums allowing for mid-to-low-single-digit earnings yields, opportunity cost would suggest buying common stocks when on sale at high-single-digit earnings yields (or more) or repurchasing Berkshire itself when on sale. Berkshire has done this for six decades under Warren and will do it for years to come under his successors. The occasional elephant will invariably cross the path as well. The gun is armed.

Other

The five-year capital allocation table contains a fifth component, "Other." It's a smallish leg which allows cash flow from operations to reconcile with Berkshire's capital allocation and net changes to debt and to cash. Included here are purchases and collections of loans and finance receivables.

Net Change in Cash Balance and Net Change in Debt Outstanding

Berkshire uses debt judiciously throughout various of its operations, mostly in the railroad and energy businesses. Over the past seven years Berkshire increased net debt by a smallish \$11 billion. At BHE equity is roughly matched with debt, customary in the industry. Too little debt and regulators think utilities are underspending. Too much debt and the company has gone wild. BHE pays no dividends and retained earnings are augmented with debt financing growth capital expenditures.

Debt is also utilized to finance certain investments. \$11 billion of Berkshire's debt is in yen which financed its investments in five Japanese trading companies (discussed in the "Fun Facts" section of last year's Berkshire portion of the annual letter).

When the Federal Reserve suppressed interest rates in late 2019 and certainly during the pandemic, Berkshire took to the debt markets. In addition to adding \$12.9 billion in net debt during those two years, they took the opportunity to materially lengthen the maturity of outstanding borrowings, locking in record-low borrowing costs on very attractive terms. Berkshire's aggregate \$124.5 billion in borrowings bear a 4.0% average interest rate, which crept up from 3.6% in 2022. Alarms aren't going off in Omaha on the rising interest burden, but you can be sure they are elsewhere. Management of debt outstanding gets little notice but is done exceedingly well at Berkshire.

Berkshire net change in cash increased \$201.7 billion since 2018. Cash comes in via profits from operations, interest and dividends, proceeds from debt raised (which doesn't sit as cash long), and proceeds from investment sales, maturities, and other sources. It goes out via each of the capital allocation levers discussed in this section. The huge increase in cash balances recently comes with a special bonus. Rising interest rates courtesy of the Federal Reserve makes holding cash less penal. At a current 4.3% yield on U.S. three-month Treasury Bills, Berkshire pockets \$13.7 billion of interest. The yield was higher before the Fed cut rates by 1% last year. Berkshire's current yield on cash is higher than its yield on debt outstanding. Somewhere an academician's cost of capital model is breaking.

Berkshire Hathaway: Ten-Year Expected Return

Beginning with Semper's 2015 annual letter, *Party Like it's 1999*, we've shared our work on economic profitability at Berkshire projections for expected returns over ten-year intervals. One year shy of formally testing the efficacy of the projection for 2025, the target suggested a \$1.17 trillion market cap on a \$65 billion profit. Closing 2024 with a \$979 billion market value on \$61.1 billion of net economic earnings, well, you get what you pay for.

Mr. Market assigns crazy valuations at times, but the average of randomness gets to the right place over the long haul. Unlike the share prices of many companies, Berkshire's shares tend to deviate extremely from underlying fundamentals. The shares were no doubt expensive during the 1990s and extremely overvalued in 1998. Management knew and acted accordingly. They were intermittently cheap at times over the past decade. Management knew as well. There are clearly times when the shares are more or less attractively priced relative to earning power and intrinsic value than others. Best to get it roughly right than precisely wrong. None of our projections (or the product of our assessment of economic profitability) are meant to imply precision. I think you will find our work on Berkshire gets it roughly right, which has meant we've earned about what we'd expect to earn as owners of what's been our largest position for most of the last quarter century. Overlaying price relative to value, our experience in Berkshire's shares is likely better than most because we've been disciplined about the price we pay when purchasing shares. Like Berkshire, Semper always has cash coming in the door – from client deposits, from dividends and from the proceeds of portfolio activity. The price paid relative to value dictates a sizable portion of return if you get it right or get it wrong. Revisiting earlier projections and expectations is a necessary part of the investment process. We like companies whose managements conduct their affairs the same way. We can make a bad investment, or a business can do the same. Either reflect on what went wrong and learn from it or brush it under the rug. We strive for the former. Great companies do as well. Others? Not so much...

Berkshire's shares delivered 15.8% and 25.5% returns in 2023 and 2024, respectively, far outpacing our expectation for the long-run growth rate of the business' fundamentals and intrinsic value. Our work gets to perhaps 10% to 12% on average over time with Berkshire. Much of the long-run expected return begins with the valuation at the outset. The shares rose only 4% in 2022 (handily beating the S&P 500's 18.1% loss). Were the shares so cheap entering 2023 that they are now fairly valued? Were they already fairly valued and are now overvalued? Expecting returns earned in the last two years over the coming decade is unrealistic. We are not starting from a depressed level of economic profitability; we don't presume a major expansion in price relative to economic earning power; and we don't find Berkshire's stock portfolio undervalued.

Paying no dividend, Berkshire's share price will roughly match its return on equity over time, plus or minus any expansion or contraction in its valuation. If the multiple to book value holds constant over the next decade, the investor will earn Berkshire's return on equity. Book value does lose some efficacy as a proxy for value over time, particularly when Berkshire repurchases large amounts of stock at high multiples to book value, or if inflation erodes the carrying value of current assets. Many Berkshire assets are carried on its balance sheet at carrying values extremely below today's replacement value.

The same correlation with return on equity equates with an expectation of price roughly match earning power over time. For the last decade, the stock compounded by 11.7% and book value per share grew 11.9%. For the past 20 years the stock gained 10.8% annually while book value per share grew 11.0%. The correlation with our measure of economic earnings and shareholder return is even tighter. Based on current economic earnings and Berkshire's valuation, I'd be very surprised if Berkshire compounds by less than 10% per annum. It may not reach the return of the last decade as the valuation is somewhat higher today than ten years ago and the stock portfolio is more fully valued.

The following table was included in the Semper 2015 annual letter and has been updated annually. From year-end 2015 to 2024, our estimate of Berkshire's economic earning power grew 10.4% per year, growing 125% over ten years from \$25.0 billion to \$61.1 billion. Over the same stretch, Berkshire's market cap expanded from \$325 billion to \$979 billion, or 11.6%, yet the stock compounded 13.0%, 1.4% greater. Berkshire's market cap outpaced profitability because the multiple paid for our measure of economic earnings expanded from 13.0x to 16.0x. The share price however exceeded the gain in market capitalization due to Berkshire's repurchase of 12.6% of its shares outstanding beginning in 2018.

Annual Progression of Berkshire's Market Cap, Profit, Multiple and Stock Price Change

	2014	2015	2016	2017	2017	2018	2019	2020	2021	2022	2023	2024	2025 At Int Val
Market Cap	\$371 B	\$325 B	\$401 B	\$489 B	@new tax \$489 B	\$502 B	\$552 B	\$537 B	\$665 B	\$685 B	\$782 B	\$979 B	\$1,155B
Net Income	\$23 B	\$25 B	\$27.5 B	\$29.1 B	\$31.8B (H)	\$36.4 B	\$42.1B	\$41.1 B* add \$2.9 B	\$46.9 B	\$52.5 B	\$53.8 B	\$61.1B	\$64.2 B
P/E	16.1x	13.0x	14.6x	16.8x	15.4x	13.8x	13.1x	13.1x	14.2x	13.0x	14.5x	16.0x	18x
Earnings Yield	6.2%	7.7%	6.9%	6.2%	6.5%	7.3%	7.6%	7.7%	7.1%	7.7%	6.90%	6.2%	5.6%
Gain in Stock Price		-12.5%	23.4%	21.9%	21.9%	2.8%	11.0%	2.4%	29.6%	4.0%	15.8%	25.5%	18.0%

Source: Berkshire Hathaway; Semper Augustus

The rate at which Berkshire buys back its own shares will dictate how *large* Berkshire becomes. The greater the repurchases, the less retained earnings reinvested, and the slower Berkshire grows. If Berkshire repurchases no additional shares and earns an average 10% return on equity (on current equity *and* on incremental equity), then Berkshire should double in size over seven years. Assuming an extreme repurchase program consuming 100% of profit, Berkshire only grows organically and not at all from reinvested earnings. The more shares Berkshire buys as a proportion of cash earned from operations; the less Berkshire will grow by dollar size. Fewer repurchases mean more retained capital for growth via investment.

Semper's 2015 letter didn't contemplate share repurchases. It had been years since Berkshire bought back stock. When it began buying shares in 2018, Berkshire could no longer match growth in market capitalization to total return. A changing share count changes requires use of per-share metrics.

We highlighted the tight correlation between book value and market value both in per-share terms over long intervals. With no dividend paid, return on equity will dictate investment return (again assuming ongoing utility to the measurement of equity). Berkshire can no longer compound at its rate of growth from 1965 to 1998. Even adjusting for Berkshire trading at twice intrinsic value in 1998, growth was going to slow. Return on equity, which has been the same as change in book value per share, averaged between 10% and 12% since Berkshire acquired General Re in 1998. It took but two years following the acquisition for the multiple to book to fall from 3x in mid-1998 to 1.05x in February 2000 where Semper bought Berkshire for the first time. Berkshire's share price declined by half from its use of the shares in the General Re purchase over the subsequent 18 months while book value itself grew. The stock was expensive when I first began working on it during the issuance of the B shares in 1996. It was materially overvalued in 1998 when they bought General Re. It was undervalued when we bought it in 2000.

We find a range of Berkshire earning between 10% and 12% on equity capital a reasonable expectation. Thus, we present our expected returns using both measures as our range. A 12% return on equity assumption for Berkshire may sound aggressive but know that my GAAP-adjusted earnings assume Berkshire *only* earns the earnings yield on the equity portfolio. At today's 19.5x P/E and 5.13% earnings yield, should the stock portfolio instead earn 10.0% annually, 4.87% above the earnings yield, that adds \$13.2 billion pretax to today's \$61.1 billion economic earnings. Berkshire's GAAP earnings *will* exceed

the earnings yield over time assuming retained earnings at its portfolio holding reinvest reasonably well and each dollar of retained earnings translates into a dollar of market value over time. However, for the same reasons we find the S&P 500 overvalued today, as does Vanguard, the Berkshire portfolio is far from cheap, and we don't expect it to earn 10% annually from today's level. A gamechanger will be watching Berkshire invest its surplus cash. Done opportunistically as it has done for sixty years, a higher return than is expected today is on the table.

Results in the table presume Berkshire invests precisely half of economic earnings repurchasing shares every year. Reality will not match expectation year to year but could over time. Easy to adjust upward or downward by year. The projection is meant to illustrate the impact of repurchasing shares at varying prices relative to book value.

The higher 12% return on equity case is shaded in green, with profit represented by the assumed 12% return on equity. If the company spends half of its profit repurchasing shares and retains half, then book value will grow by 6% per year, as will profits, albeit with a catch on profits. In 2024, with several of Berkshire's subsidiaries underearning (the Rail and various MSR businesses), Berkshire earned 9.5% on year-end equity. The more proper measure of return on equity is as a percentage of *average* equity over the year, in which case Berkshire earned 10.1%. For the purpose of compounding profits, year one, 2025 in this case, uses profits as a percentage of *trailing* book value, which we expect to be roughly \$646 billion in 2024. All are free to build their own model using any array of assumptions. In ours, beginning at a 9.5% ROE and then jumping to a 12% return in 2025 is a big leap. Remember we are only compounding earnings at *half* of the ROE because we are assuming half of profit each year retires shares. Economic earnings in this case (Net Income in the table) grows to \$132.9 billion by year-end 2034. That's an 8.1% annual rate of growth, not half of our assumed 12% ROE because the scenario assumes ROE expansion. Against the expected \$132.9 billion net income we use four terminal multiples to earnings: 13x, 15x, 18x and 20x. For each scenario we present the annual stock price change cumulatively and annualized, the percent share count reduction and annual percent share count reduction.

It will be clear when spending time with the table the degree to which price paid matters. We further demonstrate five scenarios at varying prices paid to book value: 50%, 100%, 120%, 150% and 200%. In the 1960s and 1970s Berkshire was buying shares back at half of book value. At the same time, the likelihood of Berkshire paying 200% of book value buying shares is as remotely unlikely, though the historic range of price to book is as wide on the downside and wider on the upside.

The 10% return on equity case also has a slight accretion in profitability above 5% (half of the ROE) accounting for accretion from 2024's 9.5% to 10% in 2024. Here, earnings grow to \$101.7 billion in 2034. The same 13x to 20x range is used for terminal multiple as well as the range for multiple to book value paid. The columns shaded salmon and moss green reflect the stock at 18x economic earnings at year 10. The 18x multiple reconciles to the various methods we use in calculating intrinsic value at Berkshire.

The worst-case scenario once assembling all of the variables has Berkshire's shares compounding at 5.7%. That extreme is shown is the lower left scenario where Berkshire earns 10% on equity, spends half of annual income buying shares at 200% of book value and trades for 13x terminal earnings. At the other extreme seen in the upper right, Berkshire earns 12% on equity, spends half of profit buying shares at half of book and the stock trades for 20x. Shares outstanding decline 73% and the shareholder makes 25.8% a year. Neither will happen, although in many aspects the latter *is* what happened during the first 33 years under Warren's, and later both Warren's and Charlie's, stewardship. Berkshire *was* buying shares at half of book value at times. The business *was* earning high-20s returns on equity and the stock became very expensive by 1998. A repeat would be superb but with \$646 billion in shareholder's equity and nearly \$1.2 trillion of firmwide assets that won't happen.

Ten-Year Expected Return at Year-End 2034 With ROE at 10% and 12%
Share Repurchases With 50% of Normalized Annual Profits Illustrated
2024 Initial Valuation: 10.1x Return on Average Equity, 16.0x P/E, 1.52x P/B

Repurchase with 50% of profits at 50% of BV					Repurchase with 50% of profits at 50% of BV				
10-Year: 2034 10% ROE (\$61.1B base)					10-Year: 2034 12% ROE (\$61.1B base)				
	13x	15x	18x	20x		13x	15x	18x	20x
Market Cap	1,322	1,526	1,831	2,034	Market Cap	1,728	1,994	2,393	2,658
Net Income	101.7	101.7	101.7	101.7	Net Income	132.9	132.9	132.9	132.9
Share count	501	501	501	501	Share count	393	393	393	393
Repurchase with 50% of profits at 50% of BV									
P/E	13	15	18	20	P/E	13	15	18	20
Earnings Yield	7.7%	6.7%	5.6%	5.0%	Earnings Yield	7.7%	6.7%	5.6%	5.0%
Stock Price Change	287%	347%	436%	496%	Stock Price Change	546%	645%	794%	893%
Annual Gain Per Year	14.5%	16.2%	18.3%	19.5%	Annual Gain Per Year	20.5%	22.2%	24.5%	25.8%
Share Count Reduction	65%	65%	65%	65%	Share Count Reduction	73%	73%	73%	73%
Annual Share Reduction	10.0%	10.0%	10.0%	10.0%	Annual Share Reduction	12.2%	12.2%	12.2%	12.2%
Repurchase with 50% of profits at 100% of BV					Repurchase with 50% of profits at 100% of BV				
10-Year: 2034 10% ROE (\$61.1B base)					10-Year: 2034 12% ROE (\$61.1B base)				
	13x	15x	18x	20x		13x	15x	18x	20x
Market Cap	1,322	1,526	1,831	2,034	Market Cap	1,728	1,994	2,393	2,658
Net Income	101.7	101.7	101.7	101.7	Net Income	132.9	132.9	132.9	132.9
Share count	861	861	861	861	Share count	774	774	774	774
Repurchase with 50% of profits at 100% of BV									
P/E	13	15	18	20	P/E	13	15	18	20
Earnings Yield	7.7%	6.7%	5.6%	5.0%	Earnings Yield	7.7%	6.7%	5.6%	5.0%
Stock Price Change	126%	160%	212%	247%	Stock Price Change	228%	278%	354%	404%
Annual Gain Per Year	8.5%	10.0%	12.1%	13.3%	Annual Gain Per Year	12.6%	14.2%	16.3%	17.6%
Share Count Reduction	40%	40%	40%	40%	Share Count Reduction	46%	46%	46%	46%
Annual Share Reduction	5.0%	5.0%	5.0%	5.0%	Annual Share Reduction	6.0%	6.0%	6.0%	6.0%
Repurchase with 50% of profits at 120% of BV					Repurchase with 50% of profits at 120% of BV				
10-Year: 2034 10% ROE (\$61.1B base)					10-Year: 2034 12% ROE (\$61.1B base)				
	13x	15x	18x	20x		13x	15x	18x	20x
Market Cap	1,322	1,526	1,831	2,034	Market Cap	1,728	1,994	2,393	2,658
Net Income	101.7	101.7	101.7	101.7	Net Income	132.9	132.9	132.9	132.9
Share count	939	939	939	939	Share count	861	861	861	861
Repurchase with 50% of profits at 120% of BV									
P/E	13	15	18	20	P/E	13	15	18	20
Earnings Yield	7.7%	6.7%	5.6%	5.0%	Earnings Yield	7.7%	6.7%	5.6%	5.0%
Stock Price Change	107%	139%	186%	218%	Stock Price Change	195%	240%	308%	354%
Annual Gain Per Year	7.5%	9.1%	11.1%	12.3%	Annual Gain Per Year	11.4%	13.0%	15.1%	16.3%
Share Count Reduction	35%	35%	35%	35%	Share Count Reduction	40%	40%	40%	40%
Annual Share Reduction	4.2%	4.2%	4.2%	4.2%	Annual Share Reduction	5.0%	5.0%	5.0%	5.0%
Repurchase with 50% of profits at 150% of BV					Repurchase with 50% of profits at 150% of BV				
10-Year: 2034 10% ROE (\$61.1B base)					10-Year: 2034 12% ROE (\$61.1B base)				
	13x	15x	18x	20x		13x	15x	18x	20x
Market Cap (billions)	1,322	1,526	1,831	2,034	Market Cap	1,728	1,994	2,393	2,658
Net Income	101.7	101.7	101.7	101.7	Net Income	132.9	132.9	132.9	132.9
Share count	1,024	1,024	1,024	1,024	Share count	956	956	956	956
Repurchase with 50% of profits at 150% of BV									
P/E	13	15	18	20	P/E	13	15	18	20
Earnings Yield	7.7%	6.7%	5.6%	5.0%	Earnings Yield	7.7%	6.7%	5.6%	5.0%
Stock Price Change	90%	119%	163%	192%	Stock Price Change	166%	206%	268%	308%
Annual Gain Per Year	6.6%	8.1%	10.1%	11.3%	Annual Gain Per Year	10.3%	11.8%	13.9%	15.1%
Share Count Reduction	29%	29%	29%	29%	Share Count Reduction	34%	34%	34%	34%
Annual Share Reduction	3.3%	3.3%	3.3%	3.3%	Annual Share Reduction	4.0%	4.0%	4.0%	4.0%
Repurchase with 50% of profits at 200% of BV					Repurchase with 50% of profits at 200% of BV				
10-Year: 2034 10% ROE (\$61.1B base)					10-Year: 2034 12% ROE (\$61.1B base)				
	13x	15x	18x	20x		13x	15x	18x	20x
Market Cap	1,322	1,526	1,831	2,034	Market Cap	1,728	1,994	2,393	2,658
Net Income	101.7	101.7	101.7	101.7	Net Income	132.9	132.9	132.9	132.9
Share count	1,116	1,116	1,116	1,116	Share count	1,060	1,060	1,060	1,060
Repurchase with 50% of profits at 200% of BV									
P/E	13	15	18	20	P/E	13	15	18	20
Earnings Yield	7.7%	6.7%	5.6%	5.0%	Earnings Yield	7.7%	6.7%	5.6%	5.0%
Stock Price Change	74%	101%	141%	168%	Stock Price Change	139%	176%	231%	268%
Annual Gain Per Year	5.7%	7.2%	9.2%	10.3%	Annual Gain Per Year	9.1%	10.7%	12.7%	13.9%
Share Count Reduction	22%	22%	22%	22%	Share Count Reduction	26%	26%	26%	26%
Annual Share Reduction	2.5%	2.5%	2.5%	2.5%	Annual Share Reduction	3.0%	3.0%	3.0%	3.0%

The Heart of the Ten-Year Expected Return Table:

Berkshire PE Multiple -->		13x	15x	18x	20x	13x	15x	18x	20x
Book Value of Repurchase	50%	14.5%	16.2%	18.3%	19.5%	20.5%	22.2%	24.5%	25.8%
	100%	8.5%	10.0%	12.1%	13.3%	12.6%	14.2%	16.3%	17.6%
	120%	7.5%	9.1%	11.1%	12.3%	11.4%	13.0%	15.1%	16.3%
	150%	6.6%	8.1%	10.1%	11.3%	10.3%	11.8%	13.9%	15.1%
	200%	5.7%	7.2%	9.2%	10.3%	9.1%	10.7%	12.7%	13.9%
Shaded Average = 9.6%					Shaded Average = 13.5%				

Source: *Semper Augustus*

If we had to bet, and with nearly \$200 million invested in the company you could say we are, the middle of the page is where our expectation falls. Berkshire likely earns between 10% and 12% and repurchases some meaningful number of shares between 120% and 150% of book value. If the stock trades at multiple close to today's 16.0x, the investor gets a low-double-digit return, or somewhere matching the return on equity. It's almost as simple as if the business earns 11%, with no valuation change the shareholder makes 11%. The short summary table above is extracted from the larger one on the previous page. This summary focuses on the more logical (and likely) middle of the expectation table.

The Stock Portfolio

Mr. Toad's Wild Ride aptly describes the Berkshire stock portfolio over the last several years. Two years of double-digit losses. Six years of huge annual gains. Multiple contraction. Multiple expansion. Modest portfolio activity and then huge activity. Over eight years the portfolio total return averaged 13.8% and grew in dollar size from \$150 billion (at year-end 2016) to \$285 billion. During the eight years Berkshire sold a net \$104 billion, more than \$127 billion occurring in 2024.

Even 2024 was crazy. Berkshire's Apple sale reduced the position trading for 35x earnings by two-thirds, yet the portfolio P/E rose from 18.7x to 19.5x. The multiple was only 13.6x at year-end 2022 following a 15.2% total return loss that year.



Berkshire's Stock Market Investments, Dividends and Retained Earnings

	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/31/24e
Market Value *	\$196 B	\$187 B	\$259 B ^	\$292 B ^	\$351 B	\$316 B	\$370 B	\$285 B
Earnings	\$11.0 B	\$15.1 B	\$15.9 B	\$15.1 B	\$19.1 B	\$23.2 B	\$19.8 B	\$14.6 B
Dividends	\$4.3 B	\$4.1 B	\$4.9 B	\$4.4 B	\$5.2 B	\$5.5 B	\$5.4 B	\$5.1 B
Retained Earnings of Investees **	\$6.7 B	\$11.0 B	\$11.0 B	\$10.8 B	\$14.0 B	\$17.7 B	\$14.4 B	\$9.5 B
Price to Earnings (P/E)	17.8x	12.4x	16.3x	19.3x	19.1x	13.6x	18.7x	19.5x
Earnings Yield (E/P)	5.6%	8.1%	6.1%	5.2%	5.1%	7.3%	5.3%	5.13%
Dividend Yield	2.2%	2.2%	1.9%	1.5%	1.4%	1.7%	1.5%	1.80%
Retained Earnings Yield **	3.4%	5.9%	4.2%	3.7%	3.6%	5.6%	3.9%	3.33%
Dividend Payout Ratio	39%	28%	31%	29%	29%	30%	27%	35%
Estimated Portfolio Total Return	15.9%	(13.6%)	39.2%	22.2%	29.2%	(15.2%)	24.1%	21.4%
Net Purchases / Average Assets	0.5%	12.8%	1.9%	(3.1%)	(2.3%)	10.0%	(7.0%)	(39.1%)

*Includes publicly all publicly traded stocks; Excludes non-marketable preferreds and warrants

** May not sum due to rounding

Source: *Semper Augustus*; Berkshire Hathaway

The table above is modified from 2022 onward, with changes mostly immaterial. Accounting rules force Berkshire to use the equity method of accounting in its consolidated financial statements for its positions in Kraft Heinz and Occidental Petroleum common stocks and hence *excludes* them when reporting consolidated common stock holdings on the balance sheet. Even more confusing, it *includes* Occidental preferred and warrant shares, which are not marketable. The accounting treatment for equity method investments is economically logical in that the investor includes a proportionate share of the company's profits in earnings, thus increasing the cost basis and reducing the basis for any dividends received. The method eliminates the need for look-through accounting. However, the method is extremely flawed in that when the investor ultimately sells a position, any gain or loss against cash cost will force an accounting charge against the equity method cost basis (which had been changing quarterly in arrears when KHC and OXY for example reported earnings). Prior iterations of this table would exclude the common stock positions in the public companies. The table is now revised to include these common stock positions and exclude the preferreds and warrants. This is a cleaner presentation of Berkshire's common stock investments but don't expect it to reconcile to reported GAAP financials. Our estimate of portfolio total returns consistently includes returns from the KHC and OXY positions and not from the preferreds.

Earnings from the stock portfolio include dividends. The 5.13% earnings yield equates to \$14.6 billion at year-end 2024 and now comprises only 24% of Berkshire's \$61.1 billion economic profit. Earnings yield was 27% of \$53.8 billion a year ago and 34% of \$52.5 billion in 2022. Only \$5.1 billion of dividends are included in cash flow from operations. Those ignoring the \$9.5 billion in earnings retained by Berkshire's

portfolio companies as not inuring for Berkshire's benefit will materially undervalue Berkshire's intrinsic value. Further, if the stock portfolio earns more than today's 5.1% earnings yield over time, one can add any additional return to Berkshire's economic earnings. Any premium gain is excluded from our GAAP adjusted earnings. The unrealized gains which sit with a deferred tax liability on Berkshire's balance sheet are not imaginary. Berkshire did not get to where it is by not benefiting from investment gains above dividends received. Valuing Berkshire by measuring its entire market valuation against earnings on the stock portfolio only counting dividends is an insane way to measure Berkshire's worth. You will see this in Saturday's stories after the annual report is out.

Berkshire's stock portfolio compounded by nearly 30% for three decades through 1998. By mid-1998 the portfolio traded for more than 40x earnings. Berkshire itself traded for three times book value. The stock portfolio was 115% of firm book value. Berkshire bought General Reinsurance that year and in doing so absorbed a large bond portfolio and shrunk Berkshire's stock allocation to 69% of book value without paying a dime in taxes. Evaluating the stock portfolio alone from that point, time was required to work off excessive overvaluation. Despite a total return of 2.0% in 1999 versus 21.1% for the index, Berkshire would outperform the index for the next quarter century. From the end of 1998, Berkshire's stocks compounded at 9.1%, beating the S&P's 8.2%, also expensive in the late 1990s as discussed earlier.

Berkshire Hathaway Stock Portfolio

Year		Berkshire 13F Portfolio Total Return	CAGR from 2024	CAGR from 1999	Berkshire Portfolio Total Return	CAGR from 2024	CAGR from 1999	S&P 500 Total Return	CAGR from 2024	CAGR from 1999
1999*	26yrs	2.0%	8.4%	2.0%	2.0%	9.1%	2.0%	21.1%	8.2%	21.1%
2000	25yrs	8.6%	8.7%	5.2%	8.6%	9.4%	5.2%	-9.1%	7.7%	4.9%
2001	24yrs	-17.4%	8.7%	-2.9%	-17.4%	9.4%	-2.9%	-11.9%	8.5%	-1.0%
2002	23yrs	0.2%	10.0%	-2.1%	0.2%	10.7%	-2.1%	-22.1%	9.5%	-6.8%
2003	22yrs	27.5%	10.5%	3.2%	30.7%	11.2%	3.7%	28.7%	11.2%	-0.6%
2004	21yrs	5.6%	9.7%	3.6%	5.5%	10.4%	4.0%	10.9%	10.4%	1.3%
2005	20yrs	6.0%	10.0%	3.9%	8.0%	10.6%	4.5%	4.9%	10.4%	1.8%
2006	19yrs	18.5%	10.2%	5.6%	21.7%	10.8%	6.6%	15.8%	10.7%	3.4%
2007	18yrs	1.3%	9.7%	5.1%	7.2%	10.2%	6.6%	5.5%	10.4%	3.7%
2008	17yrs	-24.4%	10.2%	1.7%	-24.3%	10.4%	3.0%	-37.0%	10.7%	-1.4%
2009	16yrs	19.6%	12.9%	3.2%	22.6%	13.0%	4.7%	26.5%	14.6%	0.9%
2010	15yrs	15.0%	12.4%	4.2%	13.1%	12.4%	5.4%	15.1%	13.9%	2.0%
2011	14yrs	6.5%	12.2%	4.3%	5.1%	12.3%	5.3%	2.1%	13.8%	2.0%
2012	13yrs	14.7%	12.7%	5.1%	15.0%	12.9%	6.0%	16.0%	14.8%	2.9%
2013	12yrs	28.8%	12.5%	6.5%	29.0%	12.7%	7.4%	32.4%	14.6%	4.7%
2014	11yrs	7.7%	11.2%	6.6%	7.3%	11.4%	7.4%	13.7%	13.2%	5.2%
2015	10yrs	-4.5%	11.5%	5.9%	-4.1%	11.8%	6.7%	1.4%	13.1%	5.0%
2016	9yrs	13.1%	13.5%	6.3%	12.9%	13.7%	7.0%	12.0%	14.5%	5.4%
2017	8yrs	15.3%	13.5%	6.7%	15.9%	13.8%	7.5%	21.8%	14.8%	6.2%
2018	7yrs	-13.6%	13.2%	5.6%	-13.6%	13.5%	6.3%	-4.4%	13.8%	5.6%
2019	6yrs	39.8%	18.5%	7.0%	39.2%	18.8%	7.7%	31.5%	17.2%	6.7%
2020	5yrs	20.7%	14.6%	7.6%	22.2%	15.1%	8.3%	18.4%	14.5%	7.2%
2021	4yrs	29.3%	13.1%	8.5%	29.2%	13.4%	9.1%	28.7%	13.6%	8.1%
2022	3yrs	-15.8%	8.2%	7.3%	-15.2%	8.5%	8.0%	-18.1%	8.9%	6.9%
2023	2yrs	23.5%	22.7%	7.9%	24.1%	22.8%	8.6%	26.3%	25.7%	7.6%
2024**	1yr	21.9%	21.9%	8.4%	21.4%	21.4%	9.1%	25.0%	25.0%	8.2%

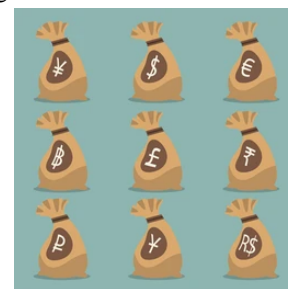
*Internally estimated BRK portfolio return

**Holdings as 12/31/24

Source: Berkshire Hathaway; Semper Augustus Calculations; Bloomberg Data

The table above includes returns from Berkshire's non-13F holdings that we have been able to identify. Precise sales proceeds can only be estimated as the method defaults to the market value at the prior quarter end before the position was known to be sold. Our return presentation for Berkshire's common stock portfolio in past letters and appearing in the left portion of the table was derived from Berkshire's SEC form 13F filings. There are nuances to the 13F that don't paint a complete picture of Berkshire's total portfolio.

Berkshire controls a number of entities that they aren't required to disclose in their quarterly 13F filings. A primary difference involves the requirement to disclose only securities listed and traded on U.S. stock exchanges. The Semper portfolio, for example, owns ten internationally headquartered companies, but we are only required to disclose three of them. Berkshire, likewise, owns and has owned a number of positions not requiring disclosure. Today these include current positions in BYD and five Japanese trading companies: Itochu, Mitsubishi, Mitsui, Sumitomo and Marubeni. A long-held undisclosed position in Diageo now includes a smaller amount of ADR shares that are included in the Berkshire's 13F filing. We believed a small position in Australian insurer IAG was sold in 2022 as a policy renewal no longer compelled Berkshire to own a position. The IAG quota-share agreement was renewed in 2023 and expires again in 2029. A 97.51 million share \$734 million position again appeared in IAG's roster of institutional holders again since July 2024. The BYD position, held inside BH Energy, has been reduced by 76% to 54.2 million shares with sales beginning in 2022 and continuing through 2024. Recall the original BYD investment in 2008 was 225 million shares for \$230 million. I'm not sure they saw the position growing to more than \$8 billion.



Since 2003, Berkshire formerly owned shares in PetroChina, POSCO, Tesco, Sanofi, Swiss Re and Munich Re. We track Berkshire's non-13F holdings as a separate portfolio and adjust holdings as we learn of any additions or deletions, either in whole positions or in position size. Over the last 26 years, Berkshire's 13F holdings returned 8.4% per year on average. Including its non-13F positions the portfolio returned 9.1%, adding 70 basis points of annual return. Over the same period the S&P 500 averaged 8.2%. Some of these international investments were home runs. PetroChina and most recently BYD and the Japanese trading companies materially added to overall return.

Don't scoff at Berkshire only earning 8.4% without the international businesses or 9.1% with them over the last 26 years. Beating the S&P over that period was quite a feat given the portfolio severe overvaluation in 1998, particularly its concentrated investment in Coca-Cola. On a \$1.3 billion investment made in the aftermath of 1987's stock market crash, Coke quickly grew to 40% of the portfolio and 46% of Berkshire equity by 1998, trading for nearly 50x earnings. If there had ever been a time to sell Coke, that was it. Despite being a thirteen-bagger in a decade and extremely overvalued, the thought of sending 35% of any gain realized to Washington was unappealing, so the purchase of General Re was the next best thing, ultimately even better. The acquisition cut Berkshire's portfolio from 65% of firm assets to 30% without selling a single share or paying a dime of tax. The drag on the portfolio as overvaluation worked off impacted a much smaller share of Berkshire and allowed it to own assets that returned more than its common stocks over the next quarter century.

The Coke holding reached \$17.4 billion in 1998 and is now only \$24.9 billion at year-end 2024. That's 26 years of working the multiple down by more than half, coupled with little business growth, yielded a mediocre result for what was by far Berkshire's largest holding. Viewing it as a bond yielding 4% is a reasonable way to think about the position.

Identifying Berkshire's largest non-13F holdings (and keeping track of cost basis on the big positions) is now more difficult. Regular readers of the Chairman's letter found conspicuously absent from the 2022

letter the longstanding table of top equity holdings with their respective shares outstanding, market values and cost basis. There are nuances to the 13F. Berkshire has reporting entities, Mr. Buffett's personal holdings for example, small as they might be relative to the portfolio, that are included in the filing. New England Asset Management holdings appear as well as some pension and rabbi trust assets at BHE. Often the holdings are the same but there are occasionally slight nuances between the SEC filing and Berkshire's much-appreciated table. At the moment, we believe the only non-13F holdings are the Japanese Holding Companies, BYD and IAG with combined values of about \$21 billion, about 7% of the overall portfolio.

Berkshire's common stock portfolio is far too large to run circles against the S&P 500 anymore. If the occasional Apple or Coca-Cola come along then fantastic. The advantage to the stock portfolio is not because it will beat some index anymore, though it has and often by quite a bit. The advantage of the stock portfolio is because it *is* a stock portfolio. The degree of overcapitalization in Berkshire's insurance operation (and a friendly home state regulator) allows for ownership of a much larger allocation to common equities than other insurers. Most own bonds. Because Berkshire buys durable and growing earning power and does not generally overpay, the earnings yield on the stock portfolio is often higher than yields on bonds. Bonds pay interest and don't reinvest retained earnings. If stocks return more than bonds over time, then Berkshire's dominance of and one of its competitive advantages over the insurance industry only grows.

Approximately 70% of Berkshire's stock portfolio is concentrated in its five largest positions (down from 80% a year ago). With 25% in Apple alone (down from 50% a year ago), as go the largest holdings – Apple, American Express, Bank of America, Coca-Cola and Chevron – so goes the portfolio. Each of the investments were acquired at terrific prices and at great moments. Will they collectively or individually beat the S&P 500? It really doesn't matter. I'd guess from year-end 2024 prices Berkshire may have an advantage thanks to a lower valuation. Four have enormous embedded long-term capital gains. Returns on the stock portfolio prospectively are not why Berkshire is likely to outperform over the next decade and beyond.

[This paragraph will appear annually as the easiest place for me to search throughout the year as to how property casualty insurers are taxed on dividends received. I often can't precisely recall the varying rates at which the dividend received deduction applies. Instead of searching Google, if you ever want the quick answer, just reach for your copy of the latest Semper letter and flip to the stock portfolio section. Fun reading here: Dividends received by corporations from other U.S. companies receive a 50% dividend received deduction on holdings less than 20% owned. Thus, at the 21% Federal tax rate, corporations pay a 10.5% rate on dividends received. For businesses more than 20% owned, the deduction is 65% making the rate 7.35%. However, for property and casualty companies, 25% of the deduction is disallowed under a proration rule. Thus, 62.5% of dividends received, and not 50% received, are taxed at 21%, making the tax rate on dividends from U.S. companies less than 20% owned 13.125%. Dividends are already taxed by the distributing company, hence the deduction. Mr. Buffett has mentioned Berkshire's blended tax rate on dividends received is about 13% from all sources.]

Berkshire Hathaway Intrinsic Value Update

Berkshire grew per-share intrinsic value by 10.5% in 2024 and 11.3% in 2023. The stock returned 25.5% and 15.8% over the two years, respectively. The stock advanced faster than intrinsic value over both years in part because the shares gained only 4% in 2022, trailing intrinsic growth. The stock also rose to 87% of value from 77% at year-end 2023 and 76% the prior year. The price return exceeded intrinsic value growth but lagged it last year. Over time, market value and intrinsic value will grow together but over short intervals will see wide disparities. That's the stock market for you, so says Mr. Market.



The shares are less undervalued heading into 2025 than they have been in quite a while. We expect to earn Berkshire's economic earnings over time. As long as book value retains viability then we likewise expect to earn Berkshire's return on equity over time. If the valuation gap to intrinsic value closes, we make more. If the valuation gap widens, we make less. Against a S&P 500 trading at 25.2x earnings capitalized on high margins, we like Berkshire at 16.0x our measure of economic earnings.

Ongoing analysis of Berkshire involves several methods, tweaked and refined each year. I've followed the company closely since 1996, the year B shares were offered to the public. Semper first acquired shares of Berkshire in February 2000, after the stock was cut in half following its purchase of General Re during the tech bubble. We bought our initial large position for \$43,707 per A share, or 105% of per-share book value. Semper's understanding of Berkshire grows each year when I take the better part of a week during the January and February letter-writing process to update my models and think about valuation. I'm relieved that after countless hours across the years reconciling and assigning myriad data points it now allows for what I believe is a fairly accurate depiction of where capital exists among the major groups and the portion of normalized profit derived from each.

The balance of this section will be somewhat repetitive for regular readers of our annual letter. Those interested in Berkshire's key subsidiaries and groups of assets may find the detail interesting. I am beyond pleased each year with the feedback, particularly from those who learn a bit about accounting, tax or just about how Berkshire is constructed and operated. Warren and Charlie said many times over the years that Berkshire evolved to what it was as a fluke. Had Mr. Buffett not acquired control of Berkshire in 1965, he could have bought National Indemnity for himself and his limited partners in 1967. He didn't, and the entire shareholder base is eternally grateful for it.

With Warren as the managing partner, we own the finest insurance operation in the world and a collection of durably profitable enterprises collected over time. To the uninitiated Berkshire is complicated and therefore often undervalued. The combination is favorable for Semper because we always have cash to work with and are always looking to increase our ownership. The combination of a deep understanding of Berkshire's construction and our ongoing reconfiguration of its arcane prescribed accounting presentation allows for an assessment of economic earning power. Applying our understanding of earning power, its durability and its predictability allows for an appraisal of Berkshire's intrinsic value. Our understanding of Berkshire, its earnings power and valuation allows us to worry about most anything *other* than what happens at Berkshire throughout the year. Derailing the business can't be done overnight and if we are approaching a turn at too-high speed, we should know it far in advance.

Berkshire's consolidated financial statements include two primary segments: (1) Insurance and Other and (2) Railroad, Utilities and Energy. Insurance and Other consists of Berkshire's entire insurance operation including GEICO, Berkshire Hathaway Reinsurance (a combination of National Indemnity and its affiliated subsidiaries along with General Re, purchased in 1998, and TransRe, a subsidiary of Alleghany which was acquired in 2022), and a variety of primary insurers writing commercial business lines.

The insurance operation is among the world's largest insurers by premiums but by far the largest by capital. As crazy as it may sound, in addition to the vast insurance operation, the "Other" in Insurance and Other includes a collection of dozens of wholly owned operating companies under a "Manufacturing, Service and Retail" umbrella, plus the roll-in of a smaller but hugely profitable group of leasing and finance companies. If the MSR group were a stand-alone company and not part of Berkshire, it would be the 44th largest company by sales in the world and 20th largest in the U.S. Insurance and Other finally includes a constantly evolving number of assets and liabilities held at the holding company level.

The second group, Railroad, Utilities and Energy is a bit more straightforward. It includes the Burlington Northern Santa Fe Railroad (BNSF) which operates one of the largest railroad systems in North America with over 32,500 route miles of track in 28 states. The reporting group also consists of Berkshire Hathaway Energy (BHE), which operates three domestic regulated utilities – PacifiCorp, MidAmerican Energy and NV Energy. BHE also owns regulated electricity distribution businesses in Great Britain and Canada. Natural gas pipelines consist of five domestic regulated interstate natural gas pipeline systems with 21,100 miles of pipeline with capacity of 21 billion cubic feet of natural gas per day. Other assets include independent power projects, a partial interest in a liquefied natural gas export/import and storage facility which is operated and consolidated for reporting purposes (now 75% owned up from 50%). BHE also owns the largest residential real estate brokerage firm in the U.S. plus one of the largest residential real estate brokerage franchise networks in the country. Berkshire bought the remaining 8% of BHE it didn't previously own in 2024.

Among the two groups' myriad collection of subsidiaries, a vast array of deferred tax assets and liabilities are created. These are consolidated as a stand-alone line item, "Income taxes, principally deferred," on Berkshire's consolidated balance sheet. An analytical framework attempting to identify each primary group's profitability measured against the capital employed in each group is faced with quite a challenge.

Berkshire made the task manageable from 2003 to 2016 when the Chairman's letter included an extremely useful supplemental financial presentation of Berkshire's main subsidiaries. This presentation disappeared from the 2017 annual report and more granular data was distributed among the MD&A, the footnotes to the financial statements, supplemental segment reporting of a handful of measures and finally a summary financial statement of holding company figures not directly allocated to the subsidiaries.

The combining of insurance and holding company assets and liabilities with Berkshire's Manufacturing, Service and Retail group makes for a complicated analysis. The analytical task grew ever more complicated in 2018 when what was a separately reported finance operation rolled into the MSR group. Several investments in common stocks are not held by the insurers and over time exist at different subsidiaries. Other investments in common stocks are accounted for using the equity method of accounting. Minutia for sure but assessing Berkshire's MSR group is an extremely important component to understanding where profitability waned for a number of years and is relatively healthier today.

Returns on equity within the MSR group ground downward from nearly 10% in the mid-2000s to 6.2% in 2016, the final year group financials were presented. Equity of the MSR group totaled \$56.8 billion in 2015. Paying \$37.2 billion including debt for Precision Castparts made the new subsidiary a material piece of MSR. The new equity balance in MSR was presumably north of \$90 billion but no longer singly identified. Immediate weakness in PCC's turbine business, already strained pre-merger, negatively impacted the MSR group's return on equity, which declined from 8% to an inadequate 6%. Subsequent inclusion of the finance group likely masked deterioration among much of Berkshire's MSR group. Clayton Homes in particular knocked the cover off the ball for years and grew into one of Berkshire's more profitable and important non-stand-alone subsidiaries. Returns on equity grew to 9% in 2022 but declined modestly in the last two years along with much of global manufacturing and retail.

The Semper letter includes an annual summary financial statement for the MSR group, despite known data shortcomings. Isolating cash, debt, other intangibles, and deferred-tax liabilities, which are reported unassigned to any group as a standalone item on Berkshire's consolidated balance sheet, made the job of getting the numbers correct very difficult. It's still no walk in the park and requires numerous assumptions and prorations involving reported segment figures. The presentation table you will find in this section is finally close to what Berkshire would see internally and allows for a better reconciliation across all key groups. The very good news is by 2021 the MSR group was earning far healthier returns than it was in 2018 and 2019. High inflation in 2022 and into 2024 caused volume declines and margin declines among many MSR companies. The group's aggregate profitability remains well above trough levels in 2017.

I remain embarrassed for having criticized Berkshire's lack of adequate disclosure. More diligence on my part and the puzzle pieces were largely there all along, if not with precision. Enough data existed to make reasonable assumptions as to assignment of key figures. Earlier attempts weren't far off but lacking specific data points I lacked a filter and chose criticism when none was warranted. As Berkshire grows, more and more granular data will roll into the segments for reporting purposes. Sharp-eyed readers will note ongoing revisions to the MSR presentation. Your author failed to include some finance assets and liabilities at the time the finance group was consolidated. More assets added than liabilities reduces my calculation or returns. What may look like erosion in profitability may only be due to errors in analysis. Sigh.

Methods Employed in Assessing Intrinsic Value

Berkshire followers often conflate earnings power and balance sheet nuances by double counting or under counting in places. Our analysis reconciles across methods. Measurement of economic earning power is preferred, primarily our GAAP adjusted financials and sum of the parts approaches. Both favored methods are joined at the hip, requiring adjustments to the published financial statements. The balance, simple book value per share and the classic two-pronged methods, are reconciling tools, and are also more impacted in the short term by swings in the publicly traded stock portfolio, more than 99% of which is now held in Berkshire's overcapitalized insurance group (excluding equity method positions).

Net Income Basis

Net Income Basis – 2024 Year-End Estimated (*dollars in billions*)

	Pre-Tax Income	After-Tax Net Income
Operating Groups		
Berkshire Hathaway Energy (Net of all NCIs)	\$2.7	\$5.4
BNSF (depressed by \$1.4B net)	7.0	5.6
Manufacturing, Service, Retail and Finance	16.0	12.1
Pilot Travel Centers	1.0	0.9
Operating Group Subtotal	<u>\$26.7</u>	<u>\$24.0</u>
Insurance and Investment Income		
Insurance Underwriting Normalized Gain	5.9	4.7
Insurance Investment Income	34.7	30.7
Holding Company Income	2.2	1.7
Normalized Pension Expense	-0.0	<u>-0.0</u>
Insurance and Investment Income Subtotal	<u>\$42.8</u>	<u>\$37.1</u>
Totals	<u>\$69.5</u>	<u>\$61.1</u>

Source: Semper Augustus; Totals may not sum due to rounding

Profit figures for Berkshire's primary operating groups are derived in concert with our sum of the parts analysis and the normalization of GAAP earnings approach utilized to remove certain aspects of volatility from reported results. Not captured is the degree any subsidiary or group is over or under earning.

The Manufacturing, Service and Retail group, which now includes the former Finance and Financial products (leasing mostly) group, was hammered during much of the pandemic year. Much of retail closed entirely for a time. Supply chains suffered and non-essential manufacturing likewise slowed or stopped. In all, the pandemic took a toll on the group, with pre-tax income declining from \$12.3 billion in 2019 to \$10.9 billion, with after-tax profit declining 15% to \$8.1 billion. Much of the group has recovered. Sales and restructuring of some underperforming subsidiaries combined with a robust recovery and operating efficiencies drove group profits to records in 2022. The group is expected to report pre-tax and after-tax profits of \$16.0 and \$12.1 billion in 2024, down modestly over the past two years. Any analysis beginning with depressed figures in 2020 will make objects in the mirror appear larger than in real life. We find measuring profits across Semper's holdings from at least as far back as 2019 to the present most useful and conservative. Berkshire's subsidiaries in its MSR group send the vast majority of profits to Omaha for capital allocation elsewhere. Recognize that growth in this collection of businesses largely comes with no reinvested capital and is thus organic.

BNSF's weakness over the last several years continues, although improvement was made in 2024. The railroad was naturally hammered in 2020, with volumes substantially lower. Railroads are blessed with lots of variable costs, so profits only declined 6% in 2020. The railroad shipped 9.5 million carloads in 2020, down 7.2% from 2019. Volumes recovered to 10.1 million by 2021 but then began to decline again. Carloads in 2022 were not much higher than in 2020 at 9.55 million. Volumes remained weak throughout 2023 as operating revenues fell 6.9% on 5.7% lower volume. Operating revenues fell only slightly by 0.4% during 2024's first nine months. However, we expect a strong second half and growth in revenues for the year. Carloadings are expected to be up at least 7% for the year. Rail profits should rise 4% in 2024 from 2023 but remain \$1.4 billion below a normalized state. Total carloadings in 2024, although improved, remain weak. Lower coal shipments from the Powder River Basin is only partly to blame. Until very recently most commodity groups shipped lower volumes.

BNSF is likely to report \$5.3 billion GAAP net profit for 2024, roughly \$200 million above 2023. We adjust economic net earnings \$300 million above GAAP reported net income reflecting cash profits benefitting from the use of accelerated depreciation on capital spending. Sizable "growth" capital improvement took place from 2009, when Berkshire bought the railroad, through 2016. Recently the degree to which capital spending outpaces depreciation charges is slowing, necessitating a reduction in the ongoing benefit. Our figure is now lower by \$500 million than it was in recent years, reflecting the lack of opportunity to "grow" the rail. The railroad is unlikely to add to track miles. It does have room to add significant volumes, and we'd expect higher profitability in coming years. It's position in the western U.S. is favorable. Population growth in the Western U.S. and Asian trade advantage the western Class 1 rails in North America.

BH Energy continues to earn good, regulated returns in its electric utility and distribution assets. Already discussed was the enormous capital opportunity in the utility and energy businesses and the caveat of a potential public policy shift away from renewables, or at least a slowdown in the cadence of converting to more renewables. Retaining capital instead of paying dividends to Omaha and having a bounty of greenfield and expansionary projects producing attractive, regulated returns is a major source of value creation. Much of BHE's spending on capital projects is tax incentivized, and there is no better group of businesses to seize the opportunity to expand. Tax credits for wind and solar provide so much benefit to have driven the tax rate downward to where it is remarkably deeply negative. We may see a negative 77% tax rate in 2024, providing \$2.0 billion in tax benefit. How many businesses do you see where net income is larger than pre-tax income, let alone \$2 billion larger? The allowed use of accelerated depreciation for

tax purposes by regulators further rewards spending of capital beyond maintenance levels for the benefit of society. Accelerated depreciation further drives the Semper-adjusted cash tax rate well below the GAAP-reported tax rate. The deferred-tax liability balance for PP&E is \$12.4 billion at BHE and \$34 billion for all of Berkshire. Both should climb higher in the years to come. We'll keep an eye on the regulatory climate. An updated reconciliation between cash taxes and GAAP taxes is again included in the appendix.

For the time being, the capability of spending enormous sums on renewables and the building of the grid is a huge competitive advantage for the group. BH Energy should surpass BNSF as Berkshire's second most valuable group next to insurance in the next four or five years.

You can see in our Net Income Basis presentation above normalized \$5.9 billion pre-tax and \$4.7 billion after-tax underwriting gain for 2024. Our method for measuring insurance underwriting assumes an average 5% pre-tax underwriting profit over time. We also exclude loss accruals on retroactive insurance and periodic payment annuity business. Large premiums are booked up front, and losses develop and are paid slowly. Berkshire is ahead of projections in both lines and regardless of accounting treatment should be very profitable. They have the use of the float for a long time, but loss accruals mask underlying profitability of these lines. Berkshire's insurance operation produced large underwriting profits over the last two years following losses in 2022 due to catastrophe and other losses from Hurricane Ian and elsewhere, plus high inflationary loss costs repairing cars and people at GEICO. Strong pricing and operational improvement at GEICO sent underwriting profits above our estimate of normal. Acceptance of large cat volumes for the first time in years in 2023 and a quiet storm season combined to send underwriting profits deeply into the black. While premium growth moderated in 2024, profit remained high. Our method strips volatile underwriting results, just like we strip quarterly and annual gains on marketable securities. Both are replaced with a more normalized estimate for profitability expected to be earned over a number of years. The analyst not agreeing with an assumed 5% pre-tax underwriting profit and our exclusion of retroactive reinsurance and periodic payment annuity accruals can plug in whatever estimate they choose or stick with the lumpy reported results. I find capitalizing lumpiness to be very difficult. Understanding insurance cyclicalities has served Semper very well over the past quarter century.

Other Methods for Valuing Berkshire

Below is a summary table for our intrinsic valuation by market capitalization and by price per share for 2023 and our expectations for 2024.

2023 Intrinsic Value by Market Cap and Per Share

	Market Capitalization	Price Per A Share	Price Per B Share
Sum of the Parts Basis	\$1,046 billion	\$725,642	\$484
GAAP-Adjusted Financials	968 billion	671,808	448
Simple Price to GAAP Book Value	982 billion	681,401	454
Two-Pronged Approach (Ours)	1,090 billion	756,443	504
Simple Average	\$1,022 billion	\$708,824	\$472

Source: Semper Augustus

2024 Intrinsic Value by Market Cap and Per Share: EXPECTED

	Market Capitalization	Price Per A Share	Price Per B Share
Sum of the Parts Basis	\$1,122 billion	\$780,463	\$520
GAAP-Adjusted Financials	1,089 billion	757,508	505
Simple Price to GAAP Book Value	1,130 billion	785,965	524
Two-Pronged Approach (Ours)	1,161 billion	807,869	539
Simple Average	\$1,126 billion	\$782,951	\$522
Annual Percent Change	10.2%	10.5%	10.5%

Source: Semper Augustus

A simple average of our four valuation methodologies values Berkshire at \$1.126 trillion, up \$104 billion over the estimate a year ago. Intrinsic value grew 10.5% in per-share terms and 10.2% in dollar terms. The difference is due to Berkshire buying back an estimated 0.27% of its outstanding shares. The cadence of share repurchases declined dramatically in 2023 and 2024. No shares were acquired in 2024's third quarter and we don't expect to see any for the fourth quarter when Berkshire releases its annual report. We expect \$2.9 billion in share repurchases for the year. An equal weighting of our four measures gets us to our intrinsic valuation for 2024.

Some methods are more conservative at times and less so at others. The Two-Pronged Approach, used intermittently by Berkshire and with changing methods since 2005 makes no judgment about the degree to which the stock portfolio is under or over-valued. It likewise makes no determination if operating earnings are likewise deviant from "normalized" levels. Several years ago, the method understated intrinsic value. It no longer does.

Use of a Simple Price to GAAP Book Value methodology will also lose efficacy over time as share repurchases made above book value will shrink book value per share proportionally more than book value itself. Also, many assets are fully depreciated or carried at values well below a conservative assessment of replacement cost. Over the last two years, 2023 and 2024, 24.1% and 21.4% total returns (50.7 % cumulatively) in Berkshire's stock portfolio helped drive book value per share 36.1% cumulatively higher over the two years. Today's book value is a better book value in our opinion by having a proportionately higher amount of cash and a now-reduced overvalued Apple position. Cash has optionality to the upside. Apple, not so much.

Semper's methods of valuation are described *briefly* below. Past letters delve into more detail of each. In total, Berkshire trades at a considerable discount to intrinsic value. The A and B shares closed 2024 at

\$680,920 and \$453.28 respectively, up from \$542,625 and \$356.66 in 2023. Using the average of our intrinsic methods, at \$782,951 and \$522 per share, Berkshire's shares trade at 87% of intrinsic value, giving us 15% upside value plus any growth in the business. The shares trade at 16.0x our estimate of economic earning power.

Of the four methods for valuing Berkshire, the Sum of the Parts Basis and GAAP Adjusted Financials approach should generally be more heavily emphasized. Some assumptions and adjustments made top-down in the GAAP Adjusted Method are likewise incorporated at the group level. When earnings are neither depressed nor above normal profitability, the two approaches should yield similar results. We are not normalizing for depressed or excessive profitability in the operating companies. We do with underwriting results, but in aggregate those are less than 10% of Berkshire's overall profitability. Any valuation figures are not meant to imply precision. The methods are assumption based and modeled to yield a normalized, smoothed result such that when profits or investments bounce around with significant volatility, our figures will move with less deviation. As a simple example, an investment earning 7% made with cash earning nothing will have nearly zero impact on our profitability assessment. With T-bills now yielding 4.3%, investments today similarly have little impact on normalized profitability. More on why this is the case to come.

Sum of the Parts Basis

Sum of the Parts Valuation (dollars in billions)

Operating Groups	2018	2019	2020	2021	2022	2023 (e)	2023 (e)
Berkshire Hathaway Energy	\$50 - 57	\$50 - 58	\$62 - 72	\$75 -86	\$81-86	\$81-86	\$86-91
BNSF	95 - 105	100 - 110	100 - 110	115 – 135	117-137	120-140	120-140
Manufacturing, Service and Retail	140 – 150	170 – 180	170 – 180	200 – 210	228-241	230-244	230-244
Finance and Financial Products	30 - 33	In MSR	In MSR	In MSR	In MSR	In MSR	In MSR
Pilot Travel Centers						12-14	12-14
Operating Group Subtotal	\$315 - 345	\$320 - 348	\$332 - 352	\$396 - 431	\$426-464	\$443-484	\$448-489
Underwriting Norm Capitalized Value	33	36	39	41	49	65	71
Operating Group and Underwriting	\$348 - 378	\$356 - 384	\$371 - 391	\$437 - 472	\$475-513	\$508-549	\$519-560
Investments							
Insurance Investments	241	330	372	453	415	492	565
Investments Premium/Discount	34	-19	-39	-50	None	None	None
Holding Co Investments (Net of debt)	21	34	32	28	19	27	17
Investments (Insurance/HoldCo) Total	\$296	\$345	\$365	\$431	\$434	\$519	\$517
TOTAL VALUATION	\$644 - 674	\$701 - 729	\$736 - 756	\$868 - 903	\$909 - 947	\$1,027 – 1,067	\$1,101 – 1,142

*Excludes Investments and Cash in Operating Groups

Source: *Semper Augustus*

Valuing Berkshire through a sum of the parts assessment is the best approach to understanding the company. Four primary operating groups – Berkshire Hathaway Energy, BNSF, a collection of businesses under the Manufacturing, Service, Retail and Finance umbrella, and the greatest collection of property/casualty insurance and reinsurance companies in the world – are each among the largest businesses in the world on a standalone basis. Berkshire's holding company also owns a collection of investments and liabilities not specifically assigned or owned by the subsidiaries.

Profits at the railroad and most MSR businesses are sent to Omaha for reinvestment elsewhere. Some of these businesses have slight opportunities to reinvest incremental capital. However, if good returns on equity capital can be maintained, even with no or little growth, these businesses serve their purpose of creating free cash above Berkshire's cost of capital. Surplus capital accumulated by the insurance operation over the years financed nearly everything at Berkshire outside of insurance. The energy businesses are growing in value and have retained all profits since Berkshire bought MidAmerican Energy in 1999, its first controlling investment in the energy and utility industry. Retained earnings are matched with traditional gearing, growing Berkshire's far faster than most in the creation and distribution of power.

Berkshire Hathaway Energy

Berkshire Hathaway Energy (BHE) is a collection of three Western U.S. regulated electric utilities and distribution assets throughout the U.S. as well as Alberta and Great Britain. The regulated utilities, MidAmerican Energy, Nevada Energy and PacifiCorp (Pacific Power and Rocky Mountain Power) serve more than 13 million customers and end users in Iowa, Nevada, Oregon, Washington, Northern California, Utah, Wyoming, and Idaho, with growing renewable energy production assets in a growing roster of additional states. The territories served by Berkshire grow faster than the overall U.S. population. The group produces more than 34,000 megawatts of power per year providing energy substantially below the U.S. national average cost and far cheaper in markets with direct competition. Distribution assets include more than 21,000 miles of natural gas pipelines transporting 15% of natural gas consumed in the U.S. An ongoing \$18 billion investment is modernizing and building electrical grid capacity in the Western U.S. and Canada. Combined, BHE's businesses are the largest in the U.S. among investor-owned utilities with clean power in operation.

Half of BHE's owned and contracted generating capacity comes from renewables, a figure that will grow materially higher. Cumulative renewables investments total nearly \$40 billion to date. Wind and solar production assets are built in geographically disparate locations where much of the grid does not exist.

BHE will report very dramatically higher earnings in 2024, mostly due to large accruals in prior periods for legal liabilities related to 2020's fires in Oregon and Northern California. In addition, electric utility net margins likely improved by more than 2%. The fires and legal loss accruals were discussed in detail in the "Populism" section earlier in the Berkshire section of the letter.

Berkshire Hathaway Energy (100.0% owned in 2024)	
Revenues Total	\$26.1 B
Energy Operating Revenue	\$21.4 B
Real Estate Operating Revenue	\$4.2 B
Other Income (Loss)	\$0.45 B
Pre-tax Income (Excludes gain/loss BYD and invest.)	\$2.7 B
Income Tax Expense (Benefit)	\$-2.0 B
Net Income (GAAP)	\$4.7 B
Non-Controlling Interests of BHE Subs	\$0.287 B
Net Earnings Attributable to BHE	\$4.6 B
Non-Controlling Interests	\$0.287 B
Preferred Stock Dividend to BRK	\$0 B
Net Earnings Attributable to BRK	\$4.3 B
Net Earnings Attributable to BRK (Adjusted for cash taxes)	\$4.8 B
Net Earnings Attributable to BHE (Adjusted for cash taxes)	\$5.2 B
Net Earnings BHE Adjust Pacificorp Wildfires 0.4B pretax	\$5.364 B
Net Earnings BRK Adjust Pacificorp Wildfires	\$4.88 B
Reported Tax Rate (Derived MD&A-not cash adjusted)	-76.5%
Cash Tax Rate (Deferred taxes exceed reported tax)	-107.0%
Goodwill (From BHE 10-Q, 10-K)	\$11.5 B
Deferred Tax Liability (Including investments)	\$12.4 B
Amortization of Intangibles	\$0.257 B
Depreciation	\$3.9 B
Capital Expenditures	\$8.8 B
BYD and Other NDC Trust Stocks; BYD \$0.775B)	\$1.725 B
BHE Equity (Including BYD, NDCs, Rabbi and Non-Control)	\$51.9 B
BHE Non-Controlling Int (75% Cove, 50% Iroquois and ETT)	\$1.3 B
BHE Equity Net of BHE Non-Controlling Interests	\$50.6 B
BHE Equity Net of NCI and Net of BYD/Investments	\$48.9 B
BRK Non-Controlling Interests (0 in 2024)	\$0 B
BRK Equity in BHE (100% at 9/30/24 net of BHE NCIs)	\$50.6 B
BHE/BRK Equity (Excluding \$3.5 B Investments Net of DTL)	\$48.8 B
Total Assets (Including BYD and Investments)	\$141.8 B
Debt	\$57.3 B
Cash	\$2.9 B
Interest	\$2.722 B
After-Tax Interest	\$2.150 B
ROE GAAP w/ % DTL Includes \$9.7 billion goodwill)	9.3%
ROE (Adjusted for cash taxes)	10.3%
ROC Net of Cash	7.1%
Estimated BHE/BRK Value With BYD Net of Tax and NCI	\$86-91 B
Implied P/E	16-17

Including fire loss accruals in 2024, the energy group likely earned \$2.7 billion in pre-tax income and \$4.7 billion (vs. \$2.6 billion in 2023) after taxes and non-controlled interest for Berkshire's benefit. The larger net figure is not a typo. BHE's tax rate will run negative 77% this year, or thereabouts, earning about \$2 billion of production and investment tax credits which help Berkshire in whole. Use of accelerated depreciation also drives the current tax rate downwards. Since the acquisition of MidAmerican in 1999, Berkshire's growing roster of energy businesses have *never* sent a dime of profit to Omaha, instead retaining all profit to grow the asset base. For the last 20 years, BHE spent an estimated \$100.7 billion in capital expenditures against only \$44.0 in depreciation charges. Capex at BHE will total \$8.8 billion in 2024 and likely rise to \$10 billion and growing over the next several years. A table breaking down annual and cumulative capex and depreciation for BHE, BNSF and the whole of Berkshire can be found in the appendix. Where Berkshire's energy operation retains all profit and adds a like amount of debt to finance growth, competitors send 75% of profits, on average, to shareholders as dividends. To the extent competitors want to grow, they must find new capital to replace funds sent out the door. The difference is a huge competitive advantage in Berkshire's favor, as is Berkshire's willingness to spend massive sums growing the energy operation.

BHE has \$50.6 billion in equity capital net of non-controlling interests but include Berkshire's trimmed investment in BYD that Berkshire began liquidating in 2022 (and continued to do so in 2024). Equity capital will more than double in size over the next decade presuming public policy continues encouraging or mandating shifting power production to renewables. BHE has \$1.3 billion of non-controlling assets as a result of a number of natural gas distribution assets, including the Cove Point LNG export terminal and storage assets acquired from Dominion three years ago. BHE now owns 75% of Cove Point LNG, up from 50%. Brookfield owns the other 25%. It has a 50% interest in Electric Transmission Texas.

Separately, Berkshire acquired the 8% of BHE it didn't own from the heirs, estate and foundation of Walter Scott in 2024. As a result, Berkshire owns 100% of BHE net of BHE's \$1.3 billion of remaining non-controlling interests. Equity includes BYD and a few other stocks in rabbi trusts.

\$142 billion total BHE assets comprise 12% of Berkshire total assets. It should surpass the railroad in value to Berkshire within the next four or five years, maybe sooner

Coal is being deemphasized outside of China and India, putting BHE far ahead of the curve in the transition of the grid to renewables. Only 5% of BHE net property and equipment was related to coal generation. The three regulated utilities closed 16 coal-fired plants from 2006 to 2021, will close another 16 by 2030 and phase out its final 14 by 2049. 22 of the remaining coal units are owned by PacifiCorp. BHE further intends to retire all of natural gas-fired production units by 2050. Our infrastructure growth, here and abroad, cannot be fueled exclusively with alternatives, making Berkshire's energy assets in the U.S., Canada and the U.K. increasingly valuable in a world inclined to not make large investments in "dirty" assets. Underinvestment alongside a growing population will make evident the attractiveness of this terrific group. You should expect to see the utility and energy businesses grow and grow in importance to Berkshire's shareholders. The collection of assets will generate particularly good returns in a world of low to moderate interest rates for years to come.

An oddity of Berkshire's structure is within which subsidiaries various investments are made. Two such creatures exist within BHE. In addition to the energy operation, MidAmerican energy houses what is now the country's largest residential real estate brokerage firm and equally large brokerage franchisee networks. Home Services of America (or BHHS as it's known in the industry) is rolling up many of the nation's major metro market high-end residential brokerages. Some are formally rebranded as BHHS while others retain their original branding. Huge by revenues but skinny by margin, the real estate business will do \$4.2 billion in revenues (16% of BHE total) on more than \$125 billion in sales volume. Volumes and profits are way down with higher mortgage rates and very little refinancing activity. The

real estate brokerage business is capital-lite, with huge volumes and top-line revenues. Rising interest rates from the second half of 2021 through 2024 crushed demand for mortgage refinance activity and volume, and thus profits. Mortgage rates rising from less than 3% to as high as 8%, coupled with what was rapidly rising housing prices made housing affordability quite poor. The Fed cut its Fed Funds rate by 1.0% in 2024, but mortgage rates subsequently rose and remain near 7%. Demand has materially softened, and many recently hot markets have large supply overhangs. Home prices are falling in several markets.

BHE's other oddball investment is a \$232 million investment at cost in BYD, a Chinese electric vehicle and battery manufacturer, which soared to \$7.7 billion at year-end 2021. Berkshire began trimming the position, leaving \$2.0 billion in market value at year-end 2023 and only \$775 million by year-end 2024. We set aside the BYD position in analyzing BHE's utility and energy operations. Investments in common stocks are not assets included in the utility rate base.

Net of the investment in BYD we value BHE between 16x and 17x earnings. Debt cost of capital is 4.4% pretax. Utilities in recent years were typically valued at higher multiples and lack the opportunity set BHE possesses to reinvest profit. Industry market valuations weakened with rising interest rates. On a GAAP basis BHE earned 9.3% on equity in 2024, including goodwill, and 7.1% on capital. We estimate profitability higher for the economic use of accelerated depreciation, a 10.3% adjusted return on equity.

BNSF

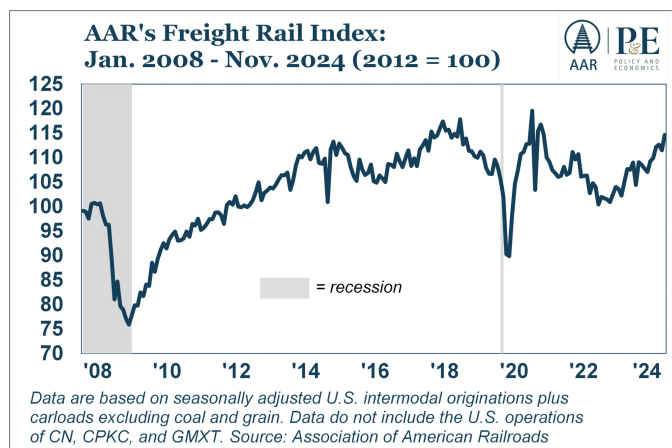
Berkshire acquired the 77.5% of BNSF it didn't already own in 2009. The deal cost Berkshire \$34.5 billion, for which it paid \$15.9 billion cash, \$10.6 billion in Berkshire shares trading for 1.3x book value and assumed \$8 billion debt. The equity piece of the purchase was \$34 billion, which was marked up for tax purposes to reflect a \$1.1 billion on the original \$6.6 billion investment that was worth \$7.7 billion at the valuation of the deal. Berkshire "really" paid \$33 billion. The acquisition added \$15 billion in goodwill to the BNSF balance sheet. Regardless, since BNSF joined Berkshire in February 2010, *nearly all* profits earned by the railroad were and are sent to Omaha. The rail retained no profit for more than a decade, and our valuation of the business is in a range of \$120 to \$140 billion. With 32,500 route miles of track in 28 western states, the railroad is closely comparable in size to Union Pacific, which presently has a \$150 billion market cap.

Revenues and profit are very similar between BNSF and Union Pacific. Comps can be dangerous with Mr. Market doing his thing. Equity is \$50.5 billion, only \$15.0 billion higher than at year-end 2010. The rail will earn a very depressed 10.5% on equity, 11.1% with our shrinking tax adjustment, and 8.9% on capital. Our higher normalized returns are listed in the table.

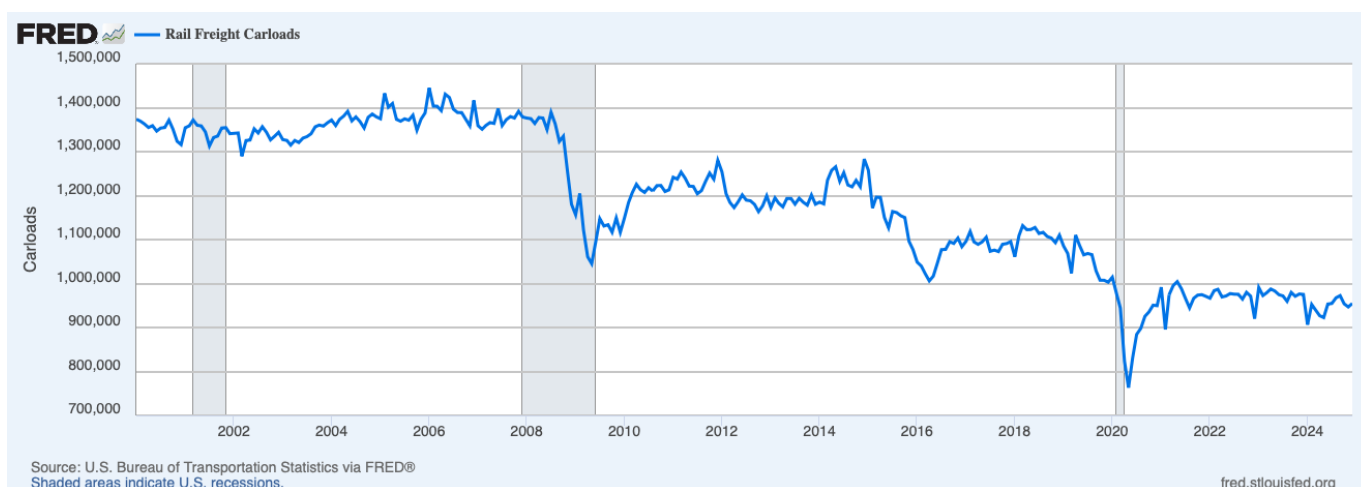
BNSF is likely to report \$5.2 billion in GAAP income on \$23.6 billion in revenues for 2024. Like BHE, a portion of capital expenditures at the railroad benefit from use of accelerated depreciation, creating a large deferred-tax liability (estimating \$15.3 billion now). On a cash tax basis, BNSF earns closer to \$5.6

BNSF	
Revenues	\$23.6 B
EBIT	\$8.1 B
Pre-tax Income	\$7.0B
Net Income (norm tax rate now 24.0%)	\$5.2 B
Net Income (cash tax adjusted)	\$5.6 B
Normalized Net Income	\$7.0 B
Goodwill (BNSF SEC and STB filings)	\$15.4 B
Equity (estimated from STB and GAAP filings)	\$50.5 B
Total Assets	\$95.8 B
Debt (with operating lease liability)	\$24.2 B
Cash	\$1.9 B
Interest	\$1.082 B
After-Tax Interest	\$0.855 B
Deferred Tax Liability	\$15.3 B
Equities as an Investment	n/a
Depreciation and Amortization	\$2.6 B
Capital Expenditures	\$3.9 B
ROE GAAP Net Income	10.5%
ROE Adjusted for Cash Taxes 13.0% Normalized	11.1%
ROC Net of Cash 11.1% Normalized	8.9%
Estimated Value	\$120-140 B
Implied P/E (on net adjusted for cash taxes)	17-20

billion and on normalized earnings nets \$7.0 billion. As stated earlier, the degree to which capex exceeds depreciation is in decline. You can't add track miles to a mature network, and much of the improvements in additional track in high-traffic corridors and tunnel expansion to accommodate intermodal's double stacking of containers has largely run its course. We'll see where this heads prospectively. Freight trains can be four times more fuel efficient than trucks.



Operating revenues across all mixes of freight shipped were mixed in 2024. Consumer products volumes shipped will rise more than 16%, offset by lower average revenue per railcar. Volumes likewise surged in agriculture products shipped, likely up more than 10% for the year. Revenues per carload were also negative. Industrial products' volumes saw a slight uptick in revenue per carload. Coal continues to plague railroads with volumes down probably close to 20% for the year and a small decline in revenue per car. Low natural gas prices in 2024 drove switching from coal in co-generation plants. If only the railroad had a coal shipping monopoly in China. [Note the nuance between the two charts. The AAR index excludes grain and coal where the STB chart by FRED includes all carloads. Coal shipments have been in decline for fifteen years.]



Despite perhaps fewer avenues for growth capex at BNSF, modernization in network and assets continues, and like the energy businesses, the rail benefits from its location in the faster growing west. Trade with Asia, depressed for several years, finally picked up late in 2023 and into 2024. The industry was a *huge* beneficiary of the TCJA tax code change at the end of 2017 on myriad fronts.

BNSF is naturally hostage to economic growth but has also been late to adopt logistical efficiencies that its peers already implemented or are in the process of doing so. Specifically, all the major Class 1 rails except BNSF adopted “Precision Scheduled Railroading” which in a nutshell runs trains on a fixed schedule between points on the network (similar to the way Southwest Airlines operates), regardless of number of cars, or units. It essentially replaces a hub and spoke method of delivering freight. Observing operating ratio improvement at the competition will likely compel BNSF to adopt PSR despite the growing pains that would come with any major logistical change. It’s likely a more difficult logistical tool to implement in a more geographically distributed footprint, but cost and efficiency benefits are likely to compel adoption.

Manufacturing, Service, Retailing and Finance

Global manufacturing is weak. Much of retail is weak. Despite numerous efficiencies made over the last seven or eight years, things clearly slowed in 2024 at many of Berkshire’s MSR businesses. The group should report \$166.9 billion in revenues for 2024, down less than 1% from 2023. Net income of 12.1 billion will be off by 5% from almost \$12.8 billion. The group typically grows in line with GDP. Many of the businesses here are mature and don’t see much more than modest price and volume increases over time. Some are in decline. A focus on cost and operational execution has improved group profitability significantly from 2017. Most subsidiaries retain no or little earnings, sending profits for Omaha for allocation elsewhere. Most top-line growth is therefore organic.

MSR Businesses + Finance & Financial Products	
Revenues	\$166.9 B
Pre-Tax Income (includes MSR intangibles amortization)	\$16.0 B
Pre-tax Margin	9.6%
Net Income at 23.4% assumed tax rate	\$12.1 B
Profit margin	7.3%
Goodwill (net of 2020 PCP \$10B write-down)	\$34.5 B
Other Intangibles (net of 2020 PCP \$600m write-down)	\$26.7 B
Total Assets (Identifiable + Intangibles)	\$214.0 B
Equity (Write-down 10.0 and 0.6 PCC 2020)	\$146 B
DTL (Unallocated estimate)	\$14.5 B
Depreciation of Tangible Assets	\$3.6 B
Capital Expenditures	\$4.6 B
Total Debt (allocated interest expense Ins & Other & Unallocated to Subs)	\$24.0B
Cash (Offset to Debt; Balance to HoldCo)	\$21.9 B
Interest	\$0.905 B
After-Tax Interest	\$0.715 B
ROE (If equity 10.6B higher for PCP writedown: 8.8%)	8.3%
ROTE (excluding goodwill & other intangibles)	14.2%
ROC Net of Cash	8.7%
Estimated Value	\$230-244 B
Implied P/E	18-19

For those who follow our work in the weeds, you will see an addition of loans and finance receivables to group balance sheet assets this year and liabilities for aircraft repurchase and unearned lease liabilities. These were separately included in Berkshire’s finance and financial products group before the leasing businesses were consolidated in the MSR group. The assets added are larger than the liabilities, thus returns on equity and on capital are reported as lower for the last several years. Don’t take this as a sudden loss of profitability. Rather, take it as an oversight by your author. As the MSR group operates with no or very little net debt, returns are unleveraged. The group will report an 8.3% return on equity in 2024, down from 8.8% in 2023 and 9.1% in 2022 (which was the highest level of profitability since 2007). Return on capital is typically similar to return on equity given low debt outstanding and Berkshire’s extremely low cost of debt. Interest earned on T-bills and cash over the last two years was higher than interest expense, both in dollars and comparative yields. You will occasionally thus see a higher return on capital than on equity.

We presume much of the net income benefit resulting from a lower tax rate has been competed away. Recall 2017’s tax code change which lowered the corporate federal tax rate from 35% to 21%, an immediate 21.5% boost to the bottom line, presuming an increased level of profitability is durable and not subject to being competed away. The benefit stuck for some, but where competition is fierce it tends to disappear. We are going to skip a subsidiary review of the MSR group this year. Volumes across many of the businesses are weak. Precision Castparts is dramatically improved. All in, this is a decent collection of businesses that with proper focus earn good but not great returns. Private equity would have a field day with many of these as Berkshire runs the group generally with no or little net leverage

Berkshire's Barely-Legible Manufacturing, Service, Retail and Finance Group 2003 – 2024

Assets	2024E	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
Cash and equivalents	\$19,740	\$19,740	\$17,813	\$17,863	\$27,830	\$19,547	\$18,313	\$13,519	\$8,073	\$6,807	\$5,765	\$6,625	\$5,338	\$4,241	\$2,673	\$3,018	\$2,497	\$2,080	\$1,543	\$1,004	\$899	\$1,250
Accounts and notes receivable	\$43,056	\$43,056	\$41,181	\$35,388	\$32,681	\$33,711	\$32,332	\$28,881	\$11,183	\$8,886	\$8,264	\$7,749	\$7,382	\$6,584	\$5,396	\$5,066	\$5,047	\$4,488	\$3,793	\$3,287	\$3,074	\$2,796
Loans and Finance Receivables	\$27,106	\$24,681	\$23,208	\$20,751	\$19,201	\$17,527	\$16,280															
Inventory	\$23,617	\$24,159	\$25,366	\$20,954	\$19,208	\$19,852	\$19,069	\$17,366	\$15,727	\$11,916	\$10,236	\$9,945	\$9,675	\$8,975	\$7,101	\$6,147	\$7,500	\$5,793	\$5,257	\$4,143	\$3,842	\$3,656
Other current assets	?	?	?	?	?	?	?	?	\$1,039	\$970	\$1,117	\$716	\$734	\$631	\$550	\$625	\$752	\$470	\$363	\$342	\$254	\$262
Total current assets	\$113,519	\$111,636	\$107,568	\$94,956	\$98,920	\$90,637	\$85,994	\$59,766	\$36,022	\$28,579	\$25,382	\$25,035	\$23,129	\$20,431	\$15,720	\$14,856	\$15,796	\$12,831	\$10,956	\$8,776	\$8,069	\$7,964
Goodwill and other intangibles	\$60,682	\$60,973	\$60,919	\$60,422	\$61,358	\$72,219	\$70,611	\$71,503	\$71,473	\$30,289	\$28,107	\$25,617	\$26,017	\$24,755	\$16,976	\$16,499	\$16,515	\$14,201	\$13,314	\$9,260	\$8,362	\$8,351
Fixed assets	\$22,300	\$22,030	\$20,378	\$20,834	\$21,200	\$21,438	\$20,628	\$19,868	\$18,915	\$15,161	\$13,806	\$19,389	\$18,871	\$17,866	\$15,421	\$15,374	\$16,338	\$9,605	\$8,934	\$7,148	\$6,161	\$5,898
Other assets (equipment held for lease)	\$17,796	\$16,947	\$15,584	\$14,918	\$8,360	\$8,215	\$9,307	\$9,391	\$3,183	\$4,445	\$3,793	\$4,274	\$3,416	\$3,661	\$3,029	\$2,070	\$1,248	\$1,685	\$1,168	\$1,021	\$1,044	\$1,054
Total assets	\$214,297	\$211,586	\$204,449	\$191,130	\$189,838	\$192,509	\$186,540	\$160,528	\$129,593	\$78,474	\$71,088	\$74,315	\$71,433	\$66,713	\$51,146	\$48,799	\$49,897	\$38,322	\$34,372	\$26,205	\$23,636	\$23,267
Liabilities and Equity																						
Notes payable	\$1,251	\$1,187	\$1,310	\$342	\$1,062	\$1,472	\$1,857	\$1,832	\$2,054	\$2,135	\$965	\$1,615	\$1,454	\$1,611	\$1,805	\$1,842	\$2,212	\$1,278	\$1,468	\$1,469	\$1,143	\$1,593
Accounts payable	\$34,724	\$32,402	\$33,201	\$30,376	\$29,279	\$27,611	\$31,314	\$26,545	\$12,464	\$10,565	\$9,734	\$8,965	\$8,527	\$15,124	\$8,169	\$7,414	\$8,087	\$7,652	\$6,635	\$5,371	\$4,685	\$4,300
Total current liabilities	\$35,975	\$33,589	\$34,511	\$30,718	\$30,341	\$29,083	\$33,171	\$28,377	\$14,518	\$12,700	\$10,699	\$10,580	\$9,981	\$16,735	\$9,974	\$9,256	\$10,299	\$8,930	\$8,103	\$6,840	\$5,828	\$5,893
Deferred taxes (net)	\$8,574	\$8,574	\$7,608	\$9,756	\$9,900	\$12,325	\$10,100	\$9,550	\$12,044	\$3,649	\$3,801	\$5,184	\$4,907	\$4,661	\$3,001	\$2,834	\$2,786	\$828	\$540	\$338	\$248	\$105
Term debt and other liabilities	\$22,762	\$22,724	\$23,835	\$17,521	\$17,795	\$16,215	\$16,247	\$19,810	\$10,943	\$4,767	\$4,269	\$4,405	\$5,826	\$6,214	\$6,621	\$6,240	\$6,033	\$3,079	\$3,014	\$2,188	\$1,965	\$1,890
Aircraft repurchase / unearned lease	\$8,941	\$8,253	\$6,820	\$5,849	\$5,856	\$5,281	\$4,593															
Total liabilities	\$67,311	\$64,887	\$65,954	\$57,995	\$58,036	\$57,623	\$59,518	\$57,737	\$37,505	\$21,116	\$18,769	\$20,169	\$20,714	\$27,610	\$19,596	\$18,330	\$19,118	\$12,837	\$11,657	\$9,366	\$8,041	\$7,888
Non-controlling interests	\$979	\$1,064	\$729	\$921	\$635	\$607	\$572	\$570	\$579	\$521	\$492	\$456	\$2,062	\$2,410	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Berkshire equity	\$146,007	\$145,635	\$137,766	\$132,214	\$131,167	\$134,279	\$126,450	\$102,221	\$91,509	\$56,837	\$51,827	\$53,690	\$48,657	\$36,693	\$31,550	\$30,469	\$30,779	\$25,485	\$22,715	\$16,839	\$15,595	\$15,379
Equity w/ PCP \$10.6B W/D add back	\$156,607	\$156,235	\$148,366	\$142,814	\$141,767																	
Income Statement																						
Revenues	\$166,903	\$168,008	\$167,293	\$153,012	\$134,097	\$142,675	\$148,809	\$126,533	\$120,059	\$107,825	\$97,689	\$95,291	\$83,255	\$72,406	\$66,610	\$61,665	\$66,099	\$59,100	\$52,660	\$46,896	\$44,142	\$32,106
Operating expenses	\$151,491	\$151,387	\$150,293	\$137,874	\$122,410	\$129,332	\$128,501	\$117,026	\$111,383	\$100,607	\$90,788	\$88,414	\$76,978	\$67,239	\$62,225	\$59,509	\$61,937	\$55,026	\$49,002	\$44,190	\$41,604	\$29,885
Net interest expense	\$905	\$885	\$781	\$586	\$798	\$416	\$265	\$264	\$214	\$103	\$109	\$135	\$146	\$130	\$111	\$98	\$139	\$127	\$132	\$83	\$57	\$64
Pre-tax income	\$15,997	\$16,621	\$16,219	\$14,552	\$10,889	\$12,365	\$12,308	\$9,243	\$8,462	\$7,115	\$6,792	\$6,742	\$6,131	\$5,037	\$4,274	\$2,058	\$4,023	\$3,947	\$3,526	\$2,623	\$2,481	\$2,157
Non-controlling interest	\$112	\$122	\$107	\$63	\$63	\$64	\$64	\$61	\$53	\$65	\$64	\$57	\$249	\$310	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Income taxes	\$3,775	\$3,740	\$3,600	\$3,340	\$2,526	\$2,929	\$2,880	\$2,974	\$2,778	\$2,367	\$2,260	\$2,455	\$2,183	\$1,688	\$1,812	\$945	\$1,740	\$1,594	\$1,395	\$977	\$941	\$813
Net Income	\$12,110	\$12,759	\$12,512	\$11,149	\$8,300	\$9,372	\$9,364	\$6,208	\$5,631	\$4,683	\$4,468	\$4,230	\$3,699	\$3,039	\$2,462	\$1,113	\$2,283	\$2,353	\$2,131	\$1,646	\$1,540	\$1,344
Income tax rate	23.6%	22.5%	22.2%	23.0%	23.2%	23.7%	23.4%	32.2%	32.8%	33.3%	33.3%	36.4%	35.6%	33.5%	42.4%	45.9%	43.3%	40.4%	39.6%	37.2%	37.9%	37.7%
Profit Margin	7.26%	7.59%	7.48%	7.29%	6.19%	6.57%	6.29%	4.91%	4.69%	4.34%	4.57%	4.44%	4.44%	4.20%	3.70%	1.80%	3.45%	3.98%	4.05%	3.51%	3.49%	4.19%
Return on Equity																						
Return on Tangible Equity	14.19%	15.07%	16.28%	15.53%	11.89%	15.10%	16.77%	20.21%	28.10%	17.64%	18.84%	15.07%	16.34%	25.45%	16.89%	7.97%	16.01%	20.85%	22.67%	21.72%	21.29%	19.12%
Return on Capital	8.73%	9.18%	9.24%	8.90%	7.51%	7.47%	7.74%	5.96%	6.19%	8.73%	9.09%	8.48%	7.82%	8.19%	7.25%	3.59%	7.06%	9.36%	9.36%	9.59%	9.59%	8.79%
ROE w/ \$10.6B PCP W/D Added Back	7.73%	8.17%	8.43%	7.81%	5.85%																	

*including depreciation of \$605 in 2003

Insurance

Berkshire's insurance operation is the best in the world. There isn't a close second. Its assembly of insurers underwrites property/casualty insurance and reinsurance through three groups and collectively is the highest rated insurance operation in the world. GEICO underwrites directly marketed private passenger auto insurance and is the third largest auto underwriter in the U.S. with 12.3% market share by premiums written. The Berkshire Hathaway Primary Group includes an assortment of commercial insurers writing medical malpractice, workers' compensation, auto, general liability, and several property and specialty coverages for businesses of all sizes. The Berkshire Hathaway Reinsurance Group writes excess-of-loss and quota-share coverages through National Indemnity since 1967, and General Reinsurance since 1998. The reinsurance group also underwrites life and health reinsurance coverages. The reinsurance group is the fourth largest reinsurance operation in the world by premiums written but by far the largest by surplus, or book value. Berkshire acquired Alleghany in October 2022. Alleghany operated Trans Re, a \$5 billion premium volume reinsurer, and RSUI and CapSpecialty who wrote \$2 billion in combined specialty premium volume at the time of purchase.

GEICO

The private passenger auto insurance industry experienced the most unusual five-year period. The pandemic took cars off the road for a year. Fewer drivers mean fewer accidents, so claims frequencies were far below historical and actuarially assumed levels. Offsetting fewer claims was an increase in severities. Fewer cars on the roads, and the perception of fewer ticket-writing police, encouraged speeding and reckless driving, hence more expensive claims paid to fix cars and people. With a welcome

surprise of far lower frequencies of claims, GEICO initiated a “giveback” program whereby policyholders were credited with discounts on renewals. Some insurers simply cut checks as refunds to policyholders. Auto insurance is written on an admitted basis, whereby underwriters file rate applications with each state insurance commission for approval. Regulators were not going to let the industry reap a huge one-time economic benefit at the expense of drivers on the roads for fewer miles than presumed.

Refunds and credits drove reported written and earned premiums downward for the duration they were in place, reducing premiums by \$2.9 billion. In GEICO’s case the givebacks ran through a portion of the fourth quarter in 2020. Once clear of the givebacks, premiums earned rose 18% over 2020 through 2021. Underwriting results in 2021 produced a satisfactory 96.7% combined ratio (losses and underwriting expenses combined as a percentage of premiums earned – essentially a profit margin). Not unexpectedly, claims frequencies rose in tandem and by the second half of 2021 severities rose substantially again. Competitors likewise saw a deterioration in margins due to the same inflationary factors. Inflation in auto repair and medical expenses can devastate profitability when relying on historic costs to guide premium pricing. Both rose very quickly and eviscerated private passenger auto underwriters in 2022. The industry bled money, exacerbated by capital hits from both declining bond and stock prices.

As is typical in private passenger auto insurance, when industrywide profitability suffers due to high loss costs, it gets price. It got it sporadically in 2022 and 2023. Certain markets like California were slow to award sufficient price to insurers and many lost money for longer in the state than in others. 2023 saw a reversal of that lag and insurers in most markets were extremely profitable in 2023 and 2024. GEICO flipped from a \$1.9 billion pre-tax underwriting loss on \$39 billion in premium earned in 2022 to \$3 billion on similar premiums earned in 2023, a 90.7% pre-tax underwriting margin. Profits surged in 2024. We expect GEICO will report \$7.8 billion of pre-tax underwriting profit, an 81.5% combined ratio, on 9.3% growth in premium earned to \$42.3 billion.

GEICO and Progressive target a 4% underwriting margin, on average. A certain mutual fund manager believes Tesla can underwrite and sell insurance at a 40% margin. I’ll repeat this line until they do.

GEICO and Progressive are both taking market share from State Farm, who not long ago had 25% of the auto market in the U.S. Both companies are likely to pass State Farm’s 18.1% share in the coming years. GEICO operates largely with no agents or brokers involved in distribution. Paying a gecko is cheaper than paying commissions, thus GEICO’s underwriting expenses are at a far lower portion of premiums earned than the competition. For this cost advantage, they tend to incur higher losses. Losses had been too high; thus, Berkshire shook-up management, placing Todd Combs temporarily in the CEO role, also retaining management responsibilities for a matching portion of Berkshire’s equity portfolio managed by Ted Weschler. Tony Nicely had run GEICO for 25 years before retiring in 2018.

GEICO remains behind Progressive in using technology in underwriting and claims management but is focused on closing the gap. Progressive leads in telematics, or the use of GPS in monitoring cars and driving habits to help properly rate risk and in setting premium. While the gap can be closed, Progressive has been more profitably gobbling up market share and passed GEICO in 2022 as the second largest private passenger auto insurer in the U.S. GEICO maintains a huge cost advantage over the field but needs to solve losses that are running too high. They are.

The good news about auto insurance is that it’s very short tail in nature. Premiums are reset every six or twelve months and losses develop quickly. Roughly 60% of losses are settled in the first year subsequent to a claim being filed. Nearly 100% of losses are developed and paid by five years. Inflation in auto parts, vehicle replacement, medical costs and litigation expenses are running at very high levels. GEICO and its competitors are benefiting from several rounds of price increases granted by most state insurance commissioners during 2022 through early 2024. Again, in states and markets where regulators were slow

to award price, the industry got even through 2024. Price tends to fix problems quickly, but it will take great ongoing effort on GEICO's part to regain its low-cost provider position versus Progressive. Progressive tends to lead when filing for rate increases. There exists a natural lag in profitability between the two. It will take more than a bunch of rate hikes to fix GEICO's loss of competitive advantage. Making a bunch of money in 2023 and 2024 eased the pain.

I believe GEICO played their hand well during the tumultuous last five years. When states like California, New York, New Jersey and others were slow or unwilling to award premium price increases despite industry losses, GEICO dramatically cut advertising spending, most likely in target geographies where business would be unprofitable. Policies-in-force naturally declined, and GEICO's market share tumbled from over 16% to 12.3% in 2023. Progressive also cut advertising spend but managed to hold market share and increase policy counts. GEICO acted according to the Berkshire insurance mantra – we'd rather lose market share than lose money. GEICO policy counts stabilized in the first half of 2024 and rose in the third quarter. We'll likely see a further gain in policies-in-force in the fourth quarter and into 2025. That's the good news. Geoffrey Chaucer, the father of English poetry and author of *The Canterbury Tales*, penned, "All good things must come to an end." Despite coining the phrase in the late 1300s, just a wee bit before the advent of the automobile, Chaucer must have had property casualty insurance in mind. Regulators, just as they award price following periods of loss, don't like "excessive" profits. The shares of too many publicly traded insurance companies are priced today as though the good times will roll on forever. Chaucer must have known insurance underwriting was a mediocre, cyclical industry. *Laissez le bon temps rouler...*



BH Primary

Berkshire's Primary Group includes its long-held Homestate Companies, MedPro, GUARD, National Indemnity Primary, U.S. Liability, Central States Indemnity and MLMIC. The largest company in the mix is Berkshire Hathaway Specialty which Berkshire seeded on a de novo basis (started from the ground up) in 2013 with a management team hired away from AIG, specifically Lexington Insurance, AIG's excess and surplus division. It quickly became the largest company in the Primary group of commercial insurers. BH Primary enjoyed 24.6% growth in premiums earned in 2023 and earned an 8% pre-tax underwriting margin. 2024 was off to a good start, following 2023's banner year with 12.2% premium growth and an 8.3% underwriting margin. Then, suddenly, Chaucer's premonition appeared from left field. BH Primary reported in Berkshire's third quarter 10-Q filing that premiums earned continued higher by 5.3% over 2023's third quarter. Check. However, underwriting profits fell from 11.5% a year ago to a 14.7% underwriting *loss*. The disaster at GUARD was discussed earlier in the "Beyond Populism – Gaffes in Insurance" section of the letter. Beyond prior-year reserve strengthening at GUARD, several other businesses writing medical professional liability and commercial liability covers succumbed to inflationary losses, particularly with increased jury awards and the costs of litigation.

In the years following Berkshire's seeding of BH Specialty in 2013 we've cautioned, "It's always worth keeping an eye on new insurers charging ahead in the capture of market share." The problems recently manifested at GUARD and elsewhere may be due to unforeseeable social inflation trends or may be a function of emphasizing growth over profit. Premiums earned at the entire BH Primary Group were \$4.4 billion in 2014, the year after launching BH Specialty. In the subsequent decade, premiums earned grew five-fold to more than \$20 billion expected in 2024, nearly 17% annual growth. In fairness, at least 10% of 2024's premiums came via RSUI and CapSpecialty, acquired as part of the Alleghany purchase. It's worth watching this space. The history of Berkshire's insurance operation is not marred by adverse reserve development. The collection of insurers in the BH Primary group write large amounts of medical

malpractice, general liability and workers' compensation business. These lines have long, extended claim-tails. What appears as sustained profits over many years can disappear, and badly. Inflation is hell on long-tail insurance liabilities, especially following a long peace.

Reinsurance

Berkshire insures and reinsures against a large and diverse number of loss events. The global reinsurance industry suffered catastrophe losses from the pandemic and a series of natural disasters in 2020 and 2021. In response, rates materially hardened for the years 2021 through 2023 and plateaued in 2024. Berkshire's reinsurance property/casualty's premiums written rose 6.4% in 2021, 19.9% in 2022 and 31.8% in 2023. Reported results include Alleghany's reinsurer, TransRe, which was writing \$5 billion in premium volume prior to the acquisition and slightly more for the first three quarters in 2023. Organic premium growth was thus closer to 4% in 2023 and will likely be flat for 2024. 2023 was the mildest year for catastrophes in several years. Coupled with higher volumes, profitability soared to \$3.5 billion pre-tax in 2023 against \$2.2 billion in 2022 and a slight gain in 2021. Net income 2023 in 2023 and beyond includes earnings from TransRe.

Underwriting earnings will decline in 2024. Hurricane Helene and other catastrophes cost \$380 million through September 30 (and more at Berkshire's non-reinsurance businesses, \$260 million at GEICO for example). The talc-related bankruptcy was discussed in the "Beyond Populism – Gaffes in Insurance" section from which NICO recorded at a third-quarter \$490 million pre-tax charge to earnings. Catastrophe losses for Hurricane Milton will impact results in 2024's fourth quarter. We don't expect large losses at Berkshire's reinsurance operation for January's Los Angeles January 2025 fires. In all, the property casualty reinsurance group should report perhaps \$2.5 billion or more of pre-tax underwriting profit in 2024, a mid-teens underwriting margin.

The reinsurance group also writes a smaller amount of life and health reinsurance, likely about \$5 billion of premium volume and decent 8% pre-tax underwriting margin in 2024. A substantial portion of the life and health business came with the General Re acquisition. The life and health group includes Berkshire's retroactive reinsurance and periodic payment annuity businesses. Accounting nuances with these two businesses masks underlying group profitability. The accounting detail is discussed later in our GAAP-adjusted economic earnings section.

Berkshire maintains a stronger capital base than any in the reinsurance industry and is massive in scale. Berkshire's combined statutory surplus (conservatively defined as equity or book value) against which it writes business dwarfs all players. Expect Berkshire's statutory surplus to total \$348 billion at year-end 2024, up from \$303 billion in 2023 and \$272 billion in 2022.

GEICO writes more premium volume than any of Berkshire's insurance companies, an expected \$42.3 billion in 2024, but requires by far the least amount of capital, no more than \$15 billion. Private passenger auto insurers write on an admitted basis and can write \$3 in premiums for every \$1 in statutory surplus. GEICO *could* write current volume with only \$14 billion in capital. They more likely assign \$25 to \$30 billion to GEICO, thus write at 1.5x or less, leaving loads of surplus capital.

BH Primary will write just over \$20 billion in premiums in 2024. This group of insurers requires more capital per dollar of business written than in auto, but with \$20 billion in annual premiums it requires perhaps 6% of Berkshire's combined insurance capital. Primary could write current volume with \$20 billion in statutory surplus, but for conservatism's sake, assign it \$30 billion, thus writing roughly 67 cents of premium per dollar of capital.

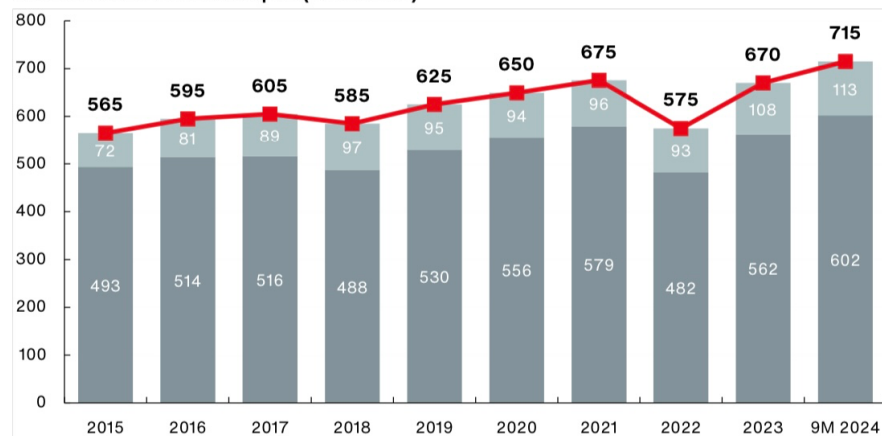
The reinsurance operation at Berkshire, National Indemnity (including retroactive reinsurance and periodic payment annuity), General Reinsurance and now Alleghany's TransRe holds and requires most of the insurance capital. Berkshire Hathaway Reinsurance Group, as the combined entity is now known, likely wrote \$27.3 billion in premiums during 2024, \$22.3 billion in property/casualty and \$5.0 billion of life/health. Surplus in the reinsurance group is nearly \$300 billion of the entire group's \$348 billion (ascribing more capital to GEICO and the primary group than is needed). Thus, the reinsurance group (including life-health) wrote perhaps 9 to 10 cents of premium for each dollar of statutory capital on the books.

By comparison, the entire global reinsurance industry has a \$715 billion combined surplus at September 30, 2024 including \$113 billion in alternative capital – catastrophe bonds and insurance-linked securities. The industry will write roughly \$390 billion in premiums. **Berkshire writes about 7% of combined reinsurance industry premium volume but has *HALF* of industry traditional equity capital and 42% when including alternative capital. Excluding Berkshire Reinsurance, the industry writes \$363 billion in premium against \$415 billion in capital, 87 cents per dollar of capital. Seven versus eighty-seven!**

If anybody wonders how Berkshire can have so much of its insurance companies' investments in common stocks instead of fixed-income securities, look no further.

Reinsurance industry capital is recovered from the beating it took in 2022. A pummeling of most investment asset classes in a year with bad catastrophes is a bad combination. Healing in 2023 and 2024 can be attributed to retained earnings, improved bond and stock prices and the arrival of new alternative

Exhibit 1: Global Reinsurer Capital (USD billions)



Source: AON

Traditional capital Alternative capital Global reinsurer capital

capital. The industry faced inflation levels not seen in four decades which pushed interest rates upward (and bond prices downward). A deteriorating global economy compelled a widening of credit spreads. Real estate prices plateaued and fell in some markets. Total industry capital plummeted 15% in 2022 before recovering 16.5% in 2023 and another 6.7% over the first nine months in 2024.

With many insurers writing maximum business that capital would allow, pricing could only go one way, hence, pricing was strong during most of the last two years. 2024's renewals were strong but not at the same rates of growth in 2023. 2024 mid-year renewals were flat and despite Helene and Milton plenty of capital was available, pushing on rate. The last couple years, 2023 in particular, were a good time to be the big dog with the fortress balance sheet. A number of companies don't have the balance sheet strength to write as much business as they would like. With the awful market for capital combined with a bad catastrophe year, Berkshire was teed up for 2023. It assumed large volumes of catastrophe risk which it hadn't taken in some time at very attractive prices. Hence, 2023's record underwriting profits. Unlike the rest, you will *never* hear Berkshire say they wrote the *maximum* business that capital would allow. Expect more caution from Berkshire given building industry capital of late.

Underwriting requires reserves to cover losses. Equities are a risk asset and count much less than fixed income as capital supporting underwriting. North American reinsurers excluding Berkshire allocate more than two-thirds of invested assets to investment grade fixed-income and nearly 10% to cash. Risk assets comprise less than a quarter and in addition to common stocks of public companies include non-investment grade bonds and alternatives such as private equity, real estate, venture capital and hedge funds.

The two largest insurers in the world by premium written are Swiss Re and Munich Re. Where Berkshire's reinsurers write less than 10 cents per dollar of capital, Swiss Re and Munich Re typically writes a dollar or more. Equities have essentially disappeared from the investment portfolios of each. These are leveraged bond portfolios requiring new capital at every major catastrophe. Both earned nice underlying profits in the last two years and their stocks reacted as though they have competitive advantages. Recall Chaucer. I will say both companies have superb signage on buildings throughout Switzerland and Germany, just like seeing Berkshire Hathaway emblazoned on the top of worldwide headquarters in Omaha.

Berkshire's insurance operation will likely end 2024 with about \$270 billion in equity securities, 48% of its \$565 billion investment portfolio. A year ago, stocks totaled \$345.6 billion, 70% of \$492 billion in insurance investment assets. Total insurance group premiums earned for all of Berkshires insurers will total \$87.8 billion in 2024, or 27% of average statutory capital over the course of 2024. You won't see this small relationship of premium volume to surplus anywhere in the insurance industry.

Insurance Operations - Estimated at December 31, 2024		Insurance Investments (December 31, 2024 estimated)	
Premiums Earned (Excludes Retroactive Premiums Earned)	\$87.8 B	Equity Securities (Includes \$8.5B OXY Pfds was 10.0B and 1.275B Warrants)	\$271.7 B
Statutory Surplus (Equity) \$237B 2020; 301B 2021; 272B 2022; \$303B 2023)	\$348 B	Fixed Income Securities	\$15.5 B
Book Value GAAP (Reconciling to Subs - likely inaccurate)	\$351 B	Cash	\$277.0B
Float (147B '21; 164B 2022; 169B '23)	\$176 B	Other (\$0 was \$0.850 BHE Pfd: Was 3.75, 1.45 paid 21, 800 paid 22; Seritage Term Loan)	\$1.0 B
Losses Paid	\$50 B	Total Investment Assets (326.1 Y/E 19; 363.1 20; 446.3 Y/E 21; 414 Y/E 2022; 492 Y/E 23)	\$565.2 B
Expected After-Tax Underwriting Gain 2024:	\$6.0 B	<u>Investment Income and Earnings (to reconcile)</u>	
Normalized Underwriting Margin: 5% Pre-tax (Ex Retro and PPA Amortization)	\$4.4 B	Dividends (Annualized at 12/31; Excludes OXY Pfd) Tax at 13.125% for less than 20% owned	\$4.891 B (1.80% div yield)
Normalized Retroactive and Periodic Payment Annuity Margin Adjustment	\$1.5 B	Retained Earnings of Common Stocks; Tax at 3%	<u>\$9.048 B (3.33% REY)</u>
Combined Normalized Pre-tax Underwriting Profit	\$5.9 B	Total Earnings of Common Stocks	\$13.938 B (19.5x P/E; 5.13% EY)
Normalized Underwriting Net Profit	\$4.7B	Hypothetical Earnings of Stocks at 10% Annual Total Return; 1.8% DY; 8.2% EY 22.279 RE; €	\$27.17 B
Goodwill (Includes \$3.1 B from Alleghany)	\$16.6.0 B	Divs on OXY Preferred (Recently paid as cash)	\$0.680
Other Intangibles (All from Alleghany)	\$2.659 B	Interest on Fixed Income and Cash; Tax at 21%	\$14.0 B
DTL (Investment Gain+Def Charges Reins-Unpaid Losses/LAE-Unearned Premiums)	\$46.0B		
Insurance Estimated Value		Total Pre-Tax Earnings of Investments (\$17.3B 2019)	\$28.618 B
Total Investment Assets	\$565.2 B	Optionality of Cash > One-Year Losses Paid #	\$6.129 B
Stocks premium/discount 15% 2021 (-19B 2019; -39B 2020; 50B 2021; 0 2022)	\$0 B	Pre-tax Earnings with Optionality of Surplus Cash **	\$34.747 B
Capitalized Value from Underwriting	\$70.5 B	Paid and Hypothetical Taxes (11.0% blended; RE of stocks 3%)	\$4.101 B
Estimated Value; Implied P/E 20.75x	\$636 B	Investment Net Income	\$30.65 B

Berkshire's insurance group's intrinsic value at year-end 2024 is estimated at \$636 billion, up from \$555 billion a year ago. Semper's estimate of Berkshire's insurance valuation is 56% of Berkshire's total intrinsic value per our valuation of the entire business. After-tax normalized underwriting profit is capitalized at only 15x earnings, or \$70.5 billion. It's the highest proportion of intrinsic value in several years. Excess capital (lots of it to go around) is occasionally upstreamed to Omaha as dividends periodically for empire building elsewhere. The appraisal of Berkshire's insurance operation presumes a 5% pre-tax underwriting profit, so \$4.4 billion on \$87.8 billion of earned premium in 2024. As discussed, we also exclude loss accruals for retroactive reinsurance and periodic payment annuity business for its unique accounting treatment where on a GAAP reported basis, yearly reported losses will nearly always pull downward overall underwriting margins, even if over time the benefit of the use of float greatly exceeds actual losses paid. Excluding loss accruals for retroactive reinsurance and periodic payment annuity adds \$1.5 billion to pre-tax underwriting profit. Losses are capped as well, and our method ignores any upfront profitability from premiums earned. We formerly did not exclude the loss accruals

but found ourselves explaining why Berkshire's overall reported insurance profitability wasn't higher. Now it's in.

Those doing their own work can use whatever assumptions they like for underwriting profitability. In aggregate, our capitalized value for insurance underwriting is small relative to earning power from the insurance investment portfolio and absolutely small relative to all of Berkshire. Whether Berkshire underwrites at a pre-tax 5% or at breakeven really doesn't matter. Where underwriting drives the profitability bus at most insurers, investments drive it at Berkshire's massively overcapitalized insurance operation while underwriting finances its growth for free or less than free.

Finally, when assessing the earning power of the insurance enterprise, annualized investment income at year-end 2024 consists of interest and dividends received totaling \$19.6 billion pretax (including \$680 million in dividends on an Occidental preferred). The balance comes from ignoring unrealized gains and losses and recognizing retained earnings of the stock market holdings, totaling \$9.0 billion today. Adding \$4.9 billion in dividends from the stock portfolio to \$9.0 billion in retained earnings totals \$13.9 billion of earnings on the stock portfolio. The 5.13% earnings yield is the only amount derived in the appraisal of group earnings from the stock portfolio. If the portfolio earns more than its 5.13% over time, then the appraisal is conservative. A 10.0% return on Berkshire's stocks adds an additional \$13.2 billion to earning power above the earnings yield on the portfolio. I have a separate presentation demonstrating this but with the stock portfolio on the fully-valued side I don't include it here. Regardless, no wonder everyone in the insurance game wants to be Berkshire.

Pilot Travel Services

Pilot Flying J is a travel center business with more than 650 travel centers and 75 fuel-only locations across the US and Canada. The business will generate \$48 billion in 2024 revenues and operates on razor-thin margins. Pilot is opening new locations financed internally with retained cash flow. Most are smaller format centers located away from the interstate highway system. In late 2019 Pilot launched the "One9 Fuel Network," which gives drivers and smaller truckers access to personalized credit and consolidated rewards points at smaller locations under the Speedway, Mr. Fuel, Pride and Stamart travel center brands. 250 locations were partnered with or acquired, with Pilot operating the stores. The bulk of the stores are/were under the Speedway umbrella, owned by Marathon Petroleum. Pilot owns a fleet of tanker trucks, an LNG business, and partnered with GM to install 2,000 charging stations at each of its travel centers.

Pilot Travel Centers	
Revenues	\$48.0 B
Cost of Good Sold	\$43.4 B
Operating and Other Expenses	\$3.4 B
Interest Expense	\$0.309 B
Pre-tax Earnings	\$0.951 B
Income Tax and Noncontrolling Interests	\$0.95 B
Net Earnings to BRK	\$0.856
PPE	\$8.0 B
Goodwill (\$14.3B reclass; Deductible for tax)	\$6.6 B
Other Intangibles	\$6.9 B
Other Assets Acquired	\$7.0 B
Notes Payable	\$5.1 B
Other Liabilities	\$4.9 B
Noncontrolling Interests, Redeemable	\$3.37 B
Equity (Gross of \$3.0 B non-tax Remeasurement)	\$14.42B
Equity (Net of \$3.0 B non-tax remeasurement)	\$11.4 B
Return on Equity (Normalized Net Margin 1.5-2.5%)	6.0%
Return on Equity (Net of \$3.0 B non-tax remeasurement)	7.5%
Estimated Value	\$15-17 B
BRK Estimated Value	\$12-14 B
Implied P/E	15-17

Berkshire originally invested \$2.8 billion for 38.6% of the company in 2017 and bought its next 41.4% in January 2023 for \$8.2 billion (the entire business wasn't for sale in 2017). I estimated at the time of the 2017 acquisition that the entirety of Pilot Flying J was valued at \$7.2 billion. The remaining 20% of Pilot Travel Centers acquired in January 2024 for \$2.6 billion, increasing Berkshire's ownership to 100%. Between the initial investment, Pilot retained a portion of income to build out its network of truck stops. Berkshire wound up likely overpaying, certainly for the final two pieces, and contested what seemed unethical actions taken prior to the final valuation by the seller. A recap of some of the ugliness surrounding Berkshire's purchase of the remaining 20% can be found in the "Fun Facts" section of our

2023 letter. Asked about settling the dispute during 2024's annual meeting of shareholders, Mr. Buffet summarized, "All's well that ends."

Holding Company Assets and Liabilities

Berkshire controls several assets and houses certain liabilities at the holding company level that don't get assigned to the subsidiaries. Assets include a sizable portion of cash and Berkshire's interest in any partially owned companies not assigned by subsidiaries where Berkshire owns more than 20% and is deemed in a control position. This latter group are carried with accounting treatment known as the equity method, which essentially adds pro rata profit to cost basis and likewise subtracts any portion of profits received as dividends. The holding company discloses separate summary condensed financial statements which include Berkshire's equity method investment in Kraft Heinz. I include their equity method position in Occidental here as well, though it's not included in Berkshire's parent balance sheet. Berkshire owns Occidental preferred stock and warrants to buy Occidental common stock that are held in the insurance group. However, I can't reconcile insurance investments to include the equity method investment which is also included in the SEC 13F filings. It needs to be included so I include with holding company assets.

The Semper Sum of the Parts method for valuing Berkshire uses the holding company group as a reconciling catch-all when we can't assign certain items directly to the subsidiaries (see immediately above).

HoldCo	
KHC 26.5%; 325,635m shares (MV \$10.000 B 2024; cash cost \$9.8 B)	\$13.008
KHC Market Value Adjustment	-\$3.008
Additional KHC Deferred Tax Liability/Asset not on BS	\$0
OXY 29.2% common; 264.1814m shares (MV \$13,053; cash cost \$ 14.5)	\$17.072
OXY Market Value Adjustment	-\$4.019
Additional OXY Deferred Tax Liability/Asset not on BS	\$0
Other Equity Method (Berkadia, ETT(in BHE))	\$0.453
Itochu, Mitsubishi, Mitsui, Sumitomo, Marubeni) (\$19.7B in Insurance)	\$0
Diageo \$606M, IAG AU Sold, Taiwan Semi Sold (In Insurance)	\$0
BHE Holdings (BYD \$2.394B; Rabbi Trusts/NDCs \$0.830B in BHE)	\$0
Cash (MSR cash assumed to offset MSR debt; Annual in HCO financials)	\$13.875
TOTAL HOLDCO ASSETS	\$37.381
Debt	\$19.638
Additional HoldCo Deferred Tax Liability (All balance to MSR)	\$1.229
HOLDCO NET ASSETS	\$16.514
KHC Eq Method Earnings (increase cost basis; (e) full 21% tax difference)	\$0.417
Divs KHC (\$522m; Reduce basis; Not an offset to Income)	\$0
OXY Equity Method Earnings Normalize \$6B (increase cost basis; (e) full 21% tax	\$1.017
Divs OXY (\$206m; Reduce basis; Not an offset to Income)	\$0
Other Equity Method Earnings	\$0.086
Distributions Received Other Eq Method (\$56m; Reduce basis; Not an offset)	\$0
Intangible Amortization of Non-MSR Subs Taxed at 21%	\$0.647
Interest Income; tax 21%	\$0.597
Retained Earnings of BYD/other BHE Stocks; Tax 7%; Not attributed to BHE	\$0.086
Optionality of holdco cash with \$30B permanent: \$4.8B @ 7% - 4%; tax 21%	\$0.213
Interest Expense (Not allocated to subs; 1.45% interest rate!!!)	-\$0.636
G&A (Not allocated to subs)	-\$0.244
Forex gains/losses on non-US denominated debt (E \$1.733 B 2024 non recurring)	\$0.000
Normalizing Net Pension Expense for GAAP Adjustment (Expect Fully Fd 2023)	-\$0.001
Net Investment Income Pre-Tax	\$2.182
Net Investment Income After-Tax	\$1.736
Estimated Value (Investments - HoldCo Debt)	\$16.5

Using our method, Assets comprising equity method investments and cash total \$37.4 billion. Liabilities totaling \$20.9 billion include debt not assigned to subsidiaries, a portion of deferred taxes (in part reflecting currency gains on foreign debt outstanding) and a tiny amount of either accounts payable, accrued interest or other liabilities each year. The net equity balance thus sums to \$16.5 billion. The holding company is estimated to earn \$1.7 billion of Berkshire's \$61.1 billion normalized profit for the year.

Equity Method Investments

Kraft Heinz

Kraft Heinz's common shares posted an 11.4% total return loss for 2024, including dividends. As an equity method investment, the decline isn't reflected in Berkshire's financial statements. Berkshire owns 325.6 million shares of Kraft Heinz, 26.9% of the outstanding shares. The cash cost basis is \$9.8 billion. Carrying value under the equity method reflects a tax value markup (non-cash) when Heinz bought Kraft, with book carrying value increased quarterly for Berkshire's proportionate share of reported earnings minus dividends received. Kraft Heinz has also taken write-downs, which Berkshire proportionally

reflected. On December 31, 2024, equity method carrying value will be \$13.0 billion and the market value of the common stock position was \$10.0 billion. Carrying value includes Berkshire's proportional share of Kraft's earnings, even if retained by Kraft, and are added to cost basis. Basis is reduced by cash dividends received, \$522 million pretax in 2024. Our holding company value includes a mark-to-market adjustment reflective of market value. Effectively, equity method accounting is a decent proxy for the way we value Berkshire's profits. By stripping market value movement but picking up dividends and retained earnings by the investee, you get to a similar place. No deferred-tax liability is created on unrealized gains using the equity method.

Occidental Petroleum

As mentioned above, Berkshire began accumulating common stock shares of Occidental during the first six months of 2022. During 2023 and 2024 Berkshire acquired additional shares pushing ownership of Occidental voting rights above 20%. Berkshire thus adopted equity method treatment of the common stock position as of August 4, 2022, and included the investment as an equity method holding on September 30, 2022. Semper journaled the position from an insurance investment to the holding company where we house all equity method investments. Berkshire owned 264.2 million common shares of Occidental at yearend with a \$13.0 billion market value. We estimate cash cost at \$14.5 billion. Because Berkshire is picking up their pro rata share of Occidental's net income, basis is \$17.1 billion which was reduced during 2024 by \$260 million pretax for dividends received on the common shares.

We moved ETT to BHE from the holding company for Semper's records. Right or wrong, we treat equity method income at the holding company level. For those reconciling Berkshire's stock market investments to its quarterly SEC 13F filings, know that the Kraft Heinz and Occidental common stock positions remain publicly traded. Our holding company assets include a quarterly mark-to-market adjustment to reflect the current market price.

Berkadia

Berkshire owns what began as a 50% interest in a commercial real estate loan servicer with Jefferies as the partner and operator. Long-standing clients will remember we had owned Leucadia, run by two outstanding investors, Ian Cumming and Joe Steinberg. The duo had no succession plan, so they bought Jefferies, making the investment bank's CEO Dick Handler the succession plan. Berkadia purchased Capmark Financial Group's mortgage loan and servicing business for \$437 million in 2009. Over the years, Berkshire provided a secured commercial paper credit facility of \$1 billion, later increased to \$1.5 billion, to fund mortgage loans, servicer advances, purchase servicing rights and to fund working capital. We rounded up summary figures from Leucadia and then Jefferies for Berkshire's share of carrying values and earnings to infer Berkshire's piece. Initially Berkadia was structured at a 50/50 joint venture. When Berkshire provided the commercial paper facility, its proportional share of rights to net income and distributions increased.

Despite reporting their ownership of Berkadia as 50% in Berkshire's financial statements, Berkshire's share increased to 55% from 2020-2022 and to 56.4% in 2023. We are not certain that equity matches income rights. It makes sense that it would. However, until we are more confident the table does not have

Year	Berkadia Net Income	Berkadia Distributions	Carrying amount of Equity and Loans
2009	\$20.8	\$0.0	\$240.0
2010	\$16.2	\$29.0	\$475.1
2011	\$29.0	\$23.6	\$193.5
2012	\$38.0	\$37.6	\$172.9
2013	\$84.7	\$69.0	\$182.6
2014	\$101.2	\$72.9	\$208.5
2015	\$78.1	\$89.6	\$191.0
2016	\$94.2	\$100.8	\$184.4
2017	\$93.8	\$67.4	\$210.6
2018	\$80.1	\$41.0	\$245.2
2019	\$88.2	\$65.1	\$268.9
2020	\$84.2	\$45.3	\$301.2
2021	\$159.7	\$70.9	\$373.4
2022	\$152.1	\$85.3	\$425.9
2023	\$67.9	\$75.2	\$400.9
2024	\$100.7	\$71.5	\$427.7

a roll forward of Berkshire's equity piece. With Pilot wholly owned, Berkadia, Occidental and Kraft Heinz are now the only equity method investments (excluding those at BHE). Accordingly, we think Berkshire's equity carrying value of Berkadia is \$427.7 million in 2024. Since we are down to but one material equity method investment, we now include Berkshire's carrying amount of equity and loans here instead of in the appendix.

BHE Equity Method Investments

Berkshire indirectly owns several equity method investments that are likewise equity method investments at BH Energy. These are pipelines, storage facilities and BHE's now 75% interest in the Cove Point LNG terminal. We do not consider these Berkshire holding company equity method investments but properly treat them as such at BHE.

In addition to Cove Point, equity method assets owned by BHE include; 50% of Electric Transmission Texas which owns and operates electric transmission assets in the Electric Reliability Council of Texas footprint; 50% of Iroquois, which owns and operates an interstate natural gas pipeline in New York and Connecticut; 50% of JAX LNG, which is an LNG supplier in Florida serving the growing marine and truck LNG markets; and two-thirds of Bridger Coal, which is a coal mining joint venture that supplies coal to PacifiCorp's Jim Bridger generating facility.

BHE subsidiaries also have roughly \$4 billion (net of depreciation) of jointly owned facilities, common among electric utilities and pipelines. It's nice seeing a few production assets at MidAmerican named for Walter Scott – the Walter Scott, Jr. No. 3 and No. 4.

In short, our subsidiary appraisals are conservative, and we have not fully moved multiples upward to capture the full effect of the tax code change. Even without the tax changes, our valuations are very conservative. If the subsidiaries were publicly traded, they would generally command much higher valuations.

The valuations for each operating group are included in the Net Income Basis table seen at the beginning of this section. More granular data for each reporting group is in the appendix.

Simple Price to GAAP Book Value Basis

Simple Per-Share Price to Book Value Basis- "A" Share Data										
	BVPS	Avg BVPS	1x BVPS	1.2x BVPS*	1.75x BVPS	2x BVPS	High	Low	Range vs.	Avg
1994	10,083	9,469	10,083	12,100	17,645	20,166	20,800	15,150		
1995	14,426	12,255	14,426	17,311	25,246	28,852	30,600	20,250	250%	165%
1996	19,011	16,719	19,011	22,813	33,269	38,022	38,000	31,000	227%	185%
1997	25,488	22,250	25,488	30,586	44,604	50,976	48,600	33,000	218%	148%
1998	37,801	31,645	37,801	45,361	66,152	75,602	84,000	45,700	265%	144%
1999	37,987	37,894	37,987	45,584	66,477	75,974	81,100	52,000	214%	137%
2000	40,442	39,215	40,442	48,530	70,774	80,884	71,300	40,800	182%	104%
2001	37,920	39,181	37,920	45,504	66,360	75,840	75,600	59,000	193%	151%
2002	41,727	39,824	41,727	50,072	73,022	83,454	78,500	59,600	197%	150%
2003	50,498	46,113	50,498	60,598	88,372	100,996	84,700	60,600	184%	131%
2004	55,824	53,161	55,824	66,989	97,692	111,648	95,700	81,150	180%	153%
2005	59,337	57,581	59,337	71,204	103,840	118,674	92,000	78,800	160%	137%
2006	70,281	64,809	70,281	84,337	122,992	140,562	114,500	85,400	177%	132%
2007	78,008	74,145	78,008	93,610	136,514	156,016	151,650	103,800	205%	140%
2008	70,530	74,269	70,530	84,636	123,428	141,060	147,000	74,100	198%	100%
2009	84,487	77,509	84,487	101,384	147,852	168,974	108,450	70,050	140%	90%
2010	95,453	89,970	95,453	114,544	167,043	190,906	128,730	97,205	143%	108%
2011	99,860	97,657	99,860	119,832	174,755	199,720	131,463	98,952	135%	101%
2012	114,214	107,037	114,214	137,057	199,875	228,428	136,345	113,855	127%	106%
2013	134,407	124,311	134,407	161,288	235,212	268,814	178,900	136,850	144%	110%
2014	145,619	140,013	145,619	174,743	254,833	291,238	229,374	163,039	164%	116%
2015	154,935	150,277	154,935	185,922	271,136	309,870	227,500	190,007	151%	126%
2016	171,542	163,239	171,542	205,850	300,199	343,084	249,711	187,001	153%	115%
2017	211,750	191,646	211,750	254,100	370,563	423,500	299,360	238,100	156%	124%
2018	212,503	212,127	212,503	255,004	371,880	425,006	335,900	279,410	158%	132%
2019	261,417	236,960	261,417	313,700	457,480	522,834	341,785	287,000	144%	121%
2020*	287,031	249,767	287,031	344,437	502,304	574,062	352,450	239,440	141%	96%
2021	342,622	302,020	342,622	411,146	599,589	685,244	454,550	341,820	151%	113%
2022	329,979	308,505	329,979	395,975	577,463	659,958	544,389	393,012	176%	127%
2023	389,372	365,997	396,193	467,246	681,401	778,744	563,073	442,765	154%	121%
2024e	449,123	389,551	396,193	538,948	785,965	898,246	737,301	543,236	189%	139%

Source: Semper Augustus; Berkshire Hathaway

Berkshire's shares closed 2024 trading at 152% of expected year-end book value. A year ago, the shares traded at 139% of 2023 year-end book value. Per a simple price-to-book value relationship, the stock is slightly more expensive than a year ago.

There are times when book value per share is a better proxy of valuation than others. Said better, book value per share does not move in lock step with intrinsic value, nor does the stock price. If Berkshire's stock portfolio rises dramatically and becomes overvalued, book value may likewise be overvalued relative to intrinsic value. At times where the stock portfolio is cheap, so too may be book value. Any time the stock rises faster than book value and intrinsic, the stock becomes more expensive relative to value and vice versa. Anybody suggesting that Berkshire's price-to-book multiple is such and such a percent may not consider whether book value contains overvalued, fairly valued or undervalued assets and equity. Today's margin of safety is lower than a year ago because the stock price advanced 25.5%. Offsetting the margin of safety erosion is the shift in the stock portfolio, Apple largely, to a lower proportion of assets and equity.

The shares traded in a range of 139% to 189% of average book value during 2024. The shares traded in a range from 0.5x to 3.0x book value over the past 60 years. In its earlier years, the lower end of the range more closely approximated intrinsic value at the time, while three times book value in 1998 most certainly did not. A 1.75x multiple has approximated fair value in recent years. By simple algebra, a 10.29% return on equity capitalized at a 1.75x multiple to equity equals an 18x price to earnings.

Beyond volatility in the stock portfolio, book value can get distorted at times such as year-end 2017 when the new marginal tax rate saw deferred-tax liabilities rerated downward and deferred tax assets revalued

upward. Berkshire properly points out that if it is going to become a large repurchaser of its shares at premiums to book value, then book value and book value per share will decline. Subsequent repurchases at increasing premiums will further and more quickly erode book value. We previously discussed assets carried at historical cost below replacement value may also understate book value.

In a normalized steady state Berkshire conservatively earns at least 10% on unleveraged net equity. Thanks to the durability and knowability of the earning power we are comfortable with a 75% premium to book as a reasonable valuation. The multiple should be higher when book value is understated. If the sustainable return on equity as projected changes, upward or downward, the valuation would be affected. Likewise, if book value becomes so diminished, it will properly be eliminated as a valuation proxy, looking to ongoing absolute profitability relative to retained and past profit. Price to book value should be excluded at present if using a constant 175% at the proper multiple.

Two-Pronged Approach

Two-Pronged Basis # (dollars in millions)																	
	Per-Share Pre-Tax Earnings	Per-Share										5% UW Capped	Add Cap UW				
		Investments				Per-Share Investments + Capitalized Pre-Tax Earnings				Market Cap Intrinsic Value							
		10x	12x	13.5x	15.4x ^	plus 10x	plus 12x	plus 13.5x	plus 15.4x^	shares out M	at 10x	at 12x	at 13.5x	at 15.4x^			
2005	2,441	24,410	29,292	32,954	37,591	74,129	98,539	103,421	107,083	111,720	1.541	151,849	159,372	165,014	172,161	10,998	176,012
2006	3,625	36,250	43,500	48,938	55,825	80,636	116,886	124,136	129,574	136,461	1.543	180,355	191,542	199,932	210,559	11,982	211,914
2007	8	80	96	108	123	90,343	90,423	90,439	90,451	90,466	1.548	139,975	140,000	140,018	140,042	15,891	155,909
2008	3,921	39,210	47,052	52,934	60,383	77,793	117,003	124,845	130,727	138,176	1.549	181,238	193,385	202,495	214,035	12,763	215,258
2009	2,250	22,500	27,000	30,375	34,650	90,885	113,385	117,885	121,260	125,535	1.552	175,974	182,958	188,196	194,830	13,942	202,138
2010	5,926	59,260	71,112	80,002	91,261	94,730	153,990	165,842	174,732	185,991	1.648	253,776	273,308	287,958	306,513	15,375	303,333
2011	6,990	69,900	83,880	94,365	107,646	98,366	168,266	182,246	192,731	206,012	1.651	277,807	300,888	318,199	340,126	16,038	334,237
2012	8,085	80,850	97,020	109,148	124,509	113,786	194,636	210,806	222,934	238,295	1.643	319,787	346,354	366,280	391,519	17,273	383,553
2013	9,116	91,160	109,392	123,066	140,386	129,253	220,413	238,645	252,319	269,639	1.644	362,359	392,332	414,812	443,287	18,342	433,154
2014	10,847	108,470	130,164	146,435	167,044	140,123	248,593	270,287	286,558	307,167	1.643	408,438	444,082	470,814	504,675	20,627	491,441
2015(S)	11,562	115,620	138,744	156,087	178,055	148,675	264,295	287,419	304,762	326,730	1.643	434,237	472,229	500,724	536,817	20,647	521,371
2015(B)	11,186	111,860	134,232	151,011	172,264	159,237	271,097	293,469	310,248	331,501	1.643	445,412	482,170	509,737	544,657		
2016(S)	10,421	104,210	125,052	140,684	160,483	168,902	273,112	293,954	309,586	329,385	1.643	448,723	482,966	508,649	541,180	22,941	531,590
2016(B)	11,718	117,180	140,616	158,193	180,457	186,520	303,700	327,136	344,713	366,977	1.643	498,979	537,484	566,363	602,944		
2017(S)	11,123	111,230	133,476	150,161	171,294	190,161	301,391	323,637	340,322	361,455	1.644	495,427	531,995	559,420	594,160	25,199	584,619
2017 (B)	15,002	150,020	180,024	202,527	231,031	202,322	352,342	382,346	404,849	433,353	1.644	579,180	628,500	665,491	712,345		
2018(S)	13,037	130,370	156,444	176,000	200,770	174,846	305,216	331,290	350,846	375,616	1.641	500,838	543,623	575,713	616,359	33,000	649,359
2018(B)	14,697	146,970	176,364	198,410	226,334	188,626	335,596	364,990	387,036	414,960	1.641	550,689	598,923	635,098	680,920		
2019(S)	14,052	140,520	168,624	189,702	216,401	235,822	376,342	404,446	425,524	452,223	1.625	611,540	657,208	691,459	734,843	36,000	770,843
2020(B)	14,309	143,090	171,708	193,172	220,359	253,676	396,766	425,384	446,848	474,035	1.625	644,728	691,231	726,108	770,286		
2020(S)	13,399	133,990	160,788	180,887	206,345	297,636	431,626	458,424	478,523	503,981	1.544	666,413	707,788	738,820	778,126	39,000	817,126
2020(B)	13,924	139,240	167,088	187,974	214,430	314,600	453,840	481,688	502,574	529,030	1.544	700,711	743,707	775,954	816,801		
2021(S)	18,011	180,110	216,132	243,149	277,369	333,785	513,895	549,917	576,934	611,154	1.475	758,227	811,376	851,238	901,729	41,000	942,729
2021(B)	18,127	181,270	217,524	244,715	279,156	347,815	529,085	565,339	592,530	626,971	1.475	780,640	834,131	874,249	925,065		
2022	22,826	228,260	273,912	308,151	351,520	336,059	564,319	609,971	644,210	687,579	1.460	823,755	890,395	940,375	1,003,682	-	1,003,682
2023	23,257	232,570	279,084	313,970	358,158	398,414	630,984	677,498	712,384	756,572	1.441	909,372	976,408	1,026,685	1,090,369	-	1,090,369
2024 est	23,571	235,710	282,852	318,209	362,993	442,871	678,581	725,723	761,080	805,864	1.441	977,969	1,045,910	1,096,865	1,161,409	-	1,161,409

Source: Semper Augustus; Berkshire Hathaway

A change in the table for 2022 and beyond was made largely for the sake of simplification and saving time (mine). No longer are both the Semper and Berkshire methods separately calculated for estimating intrinsic value using the Two-Pronged Approach. The approach begins with two simple figures, per-share pre-tax earnings of all subsidiaries excluding gains and income from marketable securities and a per-share value for all marketable securities. It serves as an extremely useful, albeit simple, method for estimating Berkshire's value by capitalizing earnings excluding any from marketable securities and then separately providing (and adding) aggregate marketable securities held at all subsidiaries at market value.

Berkshire provided the two per-share figures for the better part of two decades to help investors assess fair value. The figures disappeared from the Chairman's letter for five years and then reappeared. The method proves durable but requires some understanding and adjustment of certain data points. The method was covered in detail in our 2016 letter and in the appendix to the 2017 letter. Our method differed from the one used by Berkshire and altered over the years. Berkshire's method included underwriting gains and losses, then did not, and then did again. Ours eliminated current underwriting from operating earnings but then substituted a capitalized value to a normalized underwriting profit margin. Now, we are including our *normalized* estimated underwriting profit in pre-tax operating earnings

and no longer capitalizing at a different rate. Those using their own version of this method can use actual underwriting results but will find much more volatility to progression of intrinsic value.

Berkshire's method included cash held at non-insurance subsidiaries. Ours did not. The single method now used *includes all cash* held across Berkshire. We also use market values for Kraft Heinz and Occidental Petroleum instead of their equity method carrying values. It was nice to have a reconciling tool given occasionally changing Berkshire methods at various times requiring alteration to its original presentation beginning in 1995. It's a simple tool that happens to still get in the ballpark.

GAAP Adjusted Financials Approach

The GAAP or IFRS statement of earnings can only be a starting point for the investor seeking to measure economic profitability and the capital required to produce it. Reported profits only ever approximate economic profitability by coincidence at Berkshire. At some companies reported profits more closely align with genuine profitability. The majority of companies strive to cast their condition in the most favorable light, often distorting economic reality. Berkshire's financial reporting and the derivation of economic earning power proves a wonderful case study in how useless financial statements can be without diving deep into the footnotes and into the moving parts of the business. Berkshire's require so many adjustments that any student of investing should endeavor to understand the steps required in doing so. A great project for a summer intern would place a stack of Berkshire annual reports in front of the mentee and tell them to figure out what the company is worth. The uninitiated would require steady guidance, but what a teaching tool (just don't give them the Semper letter in advance). Our adjustments are by no means authoritative, and each can be debated as to merit. Much of the process serves to smooth volatility – distorting aspects that make Berkshire's GAAP consolidated financial statements, particularly the statement of income, of little utility.

Primary adjustments to the GAAP Statement of Earnings:

- Remove realized (and now unrealized) gains and losses on the investment portfolio of the insurance companies and other groups.
- Remove derivative contract gains and losses.
- Add retained earnings of equity investees in the investment portfolio (this is the offset to the removal of realized and unrealized gains and losses). It is a normalizing factor that assumes retained earnings will translate into at least an equal dollar of market value.
- Remove underwriting gains and losses.
- Add a normalized underwriting profit margin, now including loss accruals for retroactive reinsurance and periodic payment annuity accounting treatment.
- Add income for deferred-tax liabilities that are created with property, plant and equipment capital expenditures, reflecting the degree to which cash taxes paid are less than reported GAAP taxes.
- Add a portion of any amortization charges against intangible assets created in acquisitions not reflective of economic decay.
- Add the present value of an optionality premium to the portion of cash balances likely to be invested at higher yields in the near to intermediate future.
- Reduce net income to reflect a higher normalized pension expense and cash outlay than assumed.
- Other adjustments that are one-off are made as needed (the above are more recurring in nature).
 - 2020 saw a \$10.6 billion pre-tax and \$10.4 billion after-tax write-down of Precision Castparts. \$10 billion of the charge was a non-tax-deductible reduction of goodwill. The analyst should not be fooled by apparently higher future profitability by ignoring the charge.

- 2017 required a \$28.2 billion non-taxable downward adjustment to restate net deferred-tax liabilities, which increased taxable income by the same non-taxable amount.
- The equity method treatment of Kraft Heinz required a one-time 2017 downward income adjustment of \$2.9 billion pre-tax, \$1.2 billion after-tax, reflecting investee Kraft Heinz's similar non-cash gain in net income for revaluation of net deferred-tax liabilities.
- 2023 and 2024 exclude \$1.26 billion and \$316 million net of tax and reinsurance recoverable for wildfire loss accruals during the two years. These will likely be paid as cash, a very real diminution of loss of assets and value but should be excluded from any normalization of value exercise.

Balance sheet adjustments for things such as overvaluation or undervaluation in the common stock portfolio are separate from these adjustments to earnings. I can't tell you how many times analysts conflate things such as float with investment assets and earning power. Float is a *net* insurance liability. Investment returns are not earned on float. Liabilities must be paid but are not an offset to economic earning power.

The balance of this section is repetitive from last year's letter with updated figures for each 2024 adjustment. Consider it my contribution to little-changing footnote disclosures. The analyst can save time with a redline comparison!

Remove Realized and Unrealized Investment Gains and Losses

FASB rule ASU 2016-1 required the income statement under GAAP accounting to include unrealized gains and losses each quarter in the income statement beginning in 2018. Previously only realized gains and losses were included in income. Unrealized gains and losses were recognized on the balance sheet, net of a deferred-tax liability for taxes to be paid if, or when, holdings are sold. Unrealized gains and losses naturally remain a balance sheet item. In periods of price declines, as in 2018, the first quarter of 2020 and all of 2022, declines are offset by a correspondent reduction of the portion of deferred taxes no longer carried as a liability. These unrealized gains and losses are taxed as deferred at 21%, where prior to the 2017 TCJA tax change were taxed at 35%. In other words, investment securities move up and down in price, and the movement in either direction is offset by a 21% deferred tax liability now, with the net amount impacting shareholder's equity only by the net amount. Deferred taxes mute the impact of stock volatility on the balance sheet.

We remove a not insignificant \$53.3 billion pre-tax gain, \$42.1 billion after-tax, from the projected 2024 income statement for gains in Berkshire's investment portfolio, which included both realized gains and unrealized gains. The gain would typically contribute \$11.1 billion to Berkshire's aggregate deferred tax liability on the balance sheet. However, thanks to Berkshire's large net sale of a portion of Apple and others, the total deferred tax liability will rise modestly during 2024. We make no assumptions about realized gains during the fourth quarter, so a \$7.1 billion portfolio gain in the fourth quarter is treated as unrealized.

Our treatment always removed *realized* gains and losses from the income statement. Their timing can be arbitrary and controlled by management. It's not uncommon to see a management book gains to mask a decline in profitability. Numerous companies mastered this trick over the years. Prior to the tax code change, realized gains always helped the reported result. Portfolios could decline in value and managements had the discretion to realize gains large enough to offset or more than offset any unrealized losses. Alternatively, you see subsidiaries or assets sold or accounted for as to be sold and excluded from "adjusted" results. The most redeeming aspect of marking to market unrealized gains and losses for income statement purposes was to limit the shenanigans of selecting gains in an investment portfolio to augment results. Companies would book gains and write checks for taxes just to boost short-term profits.

There is zero history of Berkshire having done this. Rather, Berkshire historically goes out of its way to avoid paying cash taxes, large realized gains in 2024 being an exception.

Including both realized and unrealized gains and losses in the income statement *is* more economically correct than excluding them as irregular. It's just that inclusion is correct but comes with volatility that can distort operating results. If stock prices reflect the earning power of the business over time, then inclusion of gains and losses, whether realized or unrealized, will be correct – over time. It's "over time" that's the problem. To satisfy the logic for removal, eliminating short-term price volatility, we must offset the removal with a better proxy for tracking economic gains and losses. To serve that purpose, we add the retained earnings not paid as dividends by Berkshire's investees in common stocks.

Add Retained Earnings of Holdings

Offsetting the removal of realized and unrealized gains, add back the portion of profits earned by Berkshire's publicly traded investees not paid as dividends. For 2024 we added back \$9.2 billion, which is net of assumed taxes paid at 3%. The de minimis 3% rate is used in recognition that taxes owed on realized gains will be paid *later* and probably many years in the future, (it's discounting for the time value of the 21% tax rate). The deferred-tax liability assumes immediate liquidation of the portfolio, taxed at 21%. Berkshire minimizes realized gains paid as cash, and the present value aspect accounts for the difference in our assumption. The more than \$127 billion net sold from the portfolio booked \$97 billion in realized gains, more than double all net realized gains taken over the last 30 years, and perhaps the full 60 years with Mr. Buffett running Berkshire.

The removal of gains and losses as irregular and unpredictable, whether realized or unrealized, requires an offset when assessing earnings power. The offset is the addition to reported earnings of the retained earnings of publicly traded companies not paid to Berkshire as dividends. Profits retained should (and need to) inure for the ultimate benefit of the shareholder. It is simply a reinvestment of shareholder profits, a choice made by others if you happen to not be in control. This is a normalizing factor that assumes retained earnings will ultimately translate into at least an equal dollar of market value. At Berkshire, these retained earnings are a significant component of Berkshire's overall profitability. The stock portfolio will likely total 24% of Berkshire's total assets at yearend, down from 34% in 2023. As a percentage of overall Semper-derived economic earnings, \$9.1 billion net of tax in retained earnings represents 15% total normalized profit, down from 25% a year ago, the decline due to a smaller stock portfolio offset by a higher multiple to earnings.

Remove Derivative Contract Gains and Losses

This adjustment disappeared by the close of 2023's first quarter. Realized and unrealized gains and losses on derivative contracts were removed from GAAP earnings along with those on investment securities. Berkshire wrote a series of put option contracts just prior to the financial crisis with several life insurance companies as counterparties. Last year's letter contained a lengthy discussion of these brilliantly profitable transactions and how they were largely misunderstood. Those reading the letter from an educational perspective are encouraged to read the discussion in this same location in the 2023 Semper letter, *Dirty Deeds Done Dirt Cheap*. In summary, Berkshire pocketed \$4.9 billion of option premium and enjoyed investment use of the capital for nearly two decades. Not a dime of losses was paid.

Adjust Earnings to Reflect Accelerated Depreciation Tax Treatment for Capital Expenditures

Berkshire spends enormous sums on capital expenditures, much of which takes place in its energy and railroad businesses. Deferred-tax liabilities are created on qualifying investments in property, plant, and equipment. Companies like railroads and utilities are incentivized to make infrastructure investments for

the public good. The use of accelerated depreciation for tax purposes arises from higher depreciation of fixed assets allowed for tax purposes in the early years of amortizing an asset's life, made up for with lower tax-deductible depreciation expense in later years. The higher early depreciation results in lower taxes paid in the early years and consequently higher taxes in later years. The future higher taxes are carried on the balance sheet as a deferred liability. It's a present value benefit, and we adjust net income upward reflecting the benefit.

The 2017 TCJA tax code change more broadly expanded the allowed use of accelerated depreciation to most industries, instead of limited to those such as rails and regulated utilities. The code change allowed for depreciable assets (excluding structures) to be expensed in one year instead of being amortized over many years, effectively accelerated depreciation on steroids for many businesses. Equipment must have been purchased after September 27, 2017, and by December 31, 2022 (with an additional year for longer production property and certain aircraft). The immediate 100% expensing was reduced by 20% annually beginning in 2023 and is to be phased out entirely after 2026. Regulated *public* utilities were largely excluded from the new benefit – having already applied the tax treatment, albeit over more years. With the change in the tax rate to 21% from 35%, regulators logically made downward adjustments to customer electricity rates or to the rate base to maintain allowed returns on equity. Said differently, the tail of lower future depreciation expense had been determined using a 35% rate. The new lower rate would have unfairly benefited a utility at the expense of the customer.

The recent election brings proposals to alter or extend aspects of the tax changes introduced by TCJA. An early end of accelerated depreciation for non-rail and utility industries may or may not transpire. We don't expect a change to current treatment for utilities (who already used the tax method but were compelled to refund or lower prospective rates due to the change in the tax rate applied to the carried deferred-tax liability).

For 2023 and 2024 after-tax net GAAP income is increased by \$1.1 billion, down from a \$1.6 billion adjustment in 2022 and \$1.7 billion in from 2018 to 2020. The lower \$1.1 billion reflects growing investment at BHE more than offset by lower amounts of growth capital expenditures at BNSF. The deferred-tax liability for property, plant and equipment is expected to be \$33.6 billion when reported for 2024.

Over the last five years since TCJA, the use of accelerated depreciation benefitted not only the railroad, but also Berkshire's other non-regulated businesses that in many cases are also now enjoying the tax benefit of accelerated depreciation where previously they weren't. Berkshire's non-rail and energy businesses spent \$28 billion on capital expenditures from 2018 to 2024, with much of that qualifying for one-year expensing. As assets depreciate over their actual useful lives, approximated by depreciation charges in the GAAP income statement, the beneficial tax benefit eventually runs its course, and in the later years of an asset's useful life, an even higher effective tax rate than the marginal rate will be applied for the tax books. Total capital expenditures will be \$19.7 billion in 2024 against \$10.8 billion GAAP depreciation expense. BH Energy and BNSF will spend \$8.8 billion and \$3.9 billion respectively, \$6.2 billion above depreciation expense. Some of the capex is genuinely spent on maintenance, but in the case of the energy businesses, growth capex largely increases the rate base, against which regulated utilities are allowed to earn up to an established return on equity.

Berkshire will continue spending large amounts of capital expenditures, much of which drives down the current cash tax bill. The appetite for capital expenditures above maintenance outside of the rail and energy businesses is likely to wane over the course of the phaseout beginning this year. For the balance of 2025 we should see large expenditures barring any unexpected passage of unfavorable tax legislation.

Remove Underwriting Gains and Losses; Add a Normalized 5% Underwriting Profit

Underwriting profits can be extremely volatile from year-to-year, not unlike stock prices. Our method for valuing Berkshire's insurance operations removes reported underwriting profits and replaces them with a normalized 5% pre-tax underwriting profit on premiums earned. It's a similar approach to removing investment gains and losses and replacing them with the retained earnings of the stock market holdings. The volatility of the underwriting cycle is stripped in favor of estimating what we think is a sustainable and achievable profit earned *over time*. Our 5% pre-tax underwriting estimate is a blended rate across all of Berkshire's insurers and types of business written *over time*. Over time is emphasized via an example. Catastrophe reinsurance can produce large underwriting gains for many years. A single year of large losses producing an underwriting loss must be averaged among the majority of years with gains.

A low-interest rate environment makes underwriting at a profit imperative. Berkshire enjoys unusual advantages thanks to surplus capital built over the years. It can retain more business than its competitors and maintain much larger allocations to common stocks. Surplus capital derived from best-in-class underwriting and higher returns from longer duration investment assets allows dividend and capital distributions to the holding company and into its non-insurance businesses. We closely watch developments like GEICO's competitive positioning and the progress (and speedbumps) of the specialty business and various longer-tail businesses. We may well alter our profit assumption. A more conservative approach would assume breakeven underwriting over time, which strips \$70.5 billion from the capitalized value of underwriting profit that's included in our appraisal of Berkshire's intrinsic value.

Berkshire has a history of including, then excluding, then including then dropping altogether underwriting profit in their dual yardstick method of calculating intrinsic value from 1995 to 2015. Our method of removing volatility and replacing it with what we think Berkshire will earn on underwriting allows us to determine the worth of the insurers, and the business at large, without having to think about the degree to which insurance profits are under or over a "normal" level of underwriting for a year or period of years.

When we analyze property casualty insurers and reinsurers, we spend a lot of effort trying to determine sustainable underwriting margins, which can be positive or negative depending on the type of insurance written and the economic climate, particularly with interest rates, inflation, capital required and competitive capacity.

The first step of normalizing 2024 underwriting profit eliminates an estimated after-tax \$6.0 billion gain from GAAP earnings. The next step adds \$4.1 billion after tax of our 5% normalized pre-tax underwriting profit and \$1.5 billion net in what will be reported as "losses" for retroactive and periodic payment annuity business written in the past.

Add a Portion of Intangibles Amortization Expense to Income

Economic earnings are increased by \$1.2 billion to reflect the amortization of intangibles created in acquisitions that do not economically decay. Berkshire recognizes a portion of this reality each year, formerly in a supplemental presentation in the Chairman's letter and beginning two years ago in the MD&A segment presentation of the Manufacturing, Service and Retail group in the 10-K. Unlike many public companies, Berkshire does not present a pro-forma or supplemental set of financials excluding various expenses. The goodwill and intangibles footnote makes clear the types and amounts of intangibles being amortized. The balance of intangibles being amortized with no economic decay is now much larger and growing. We had been adding back 80% of the amortization charge for intangibles, which resulted in economic earnings being roughly \$600 million higher after-tax than GAAP profits for 2010 to 2015. We are now adding back 90% of the intangibles charge thanks to ongoing amortization and a lack of recent acquisition activity.

Net intangibles were \$35.9 billion on September 30, 2024, against \$53.2 billion gross. Accumulated amortization is \$17.0 billion. In addition to trademarks and trade names, other intangible assets with indefinite lives such as customer relationships generally lose little, if any, economic value over time. Intangibles such as patents, with defined expirations, do decay.

Add an Optionality Premium to a Portion of Cash Balances

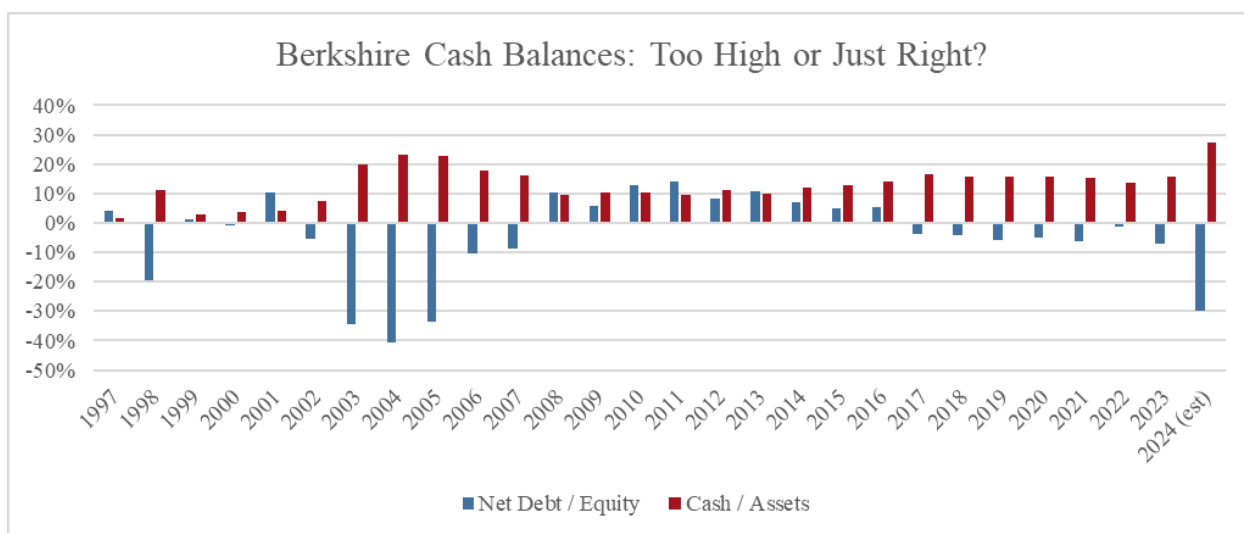
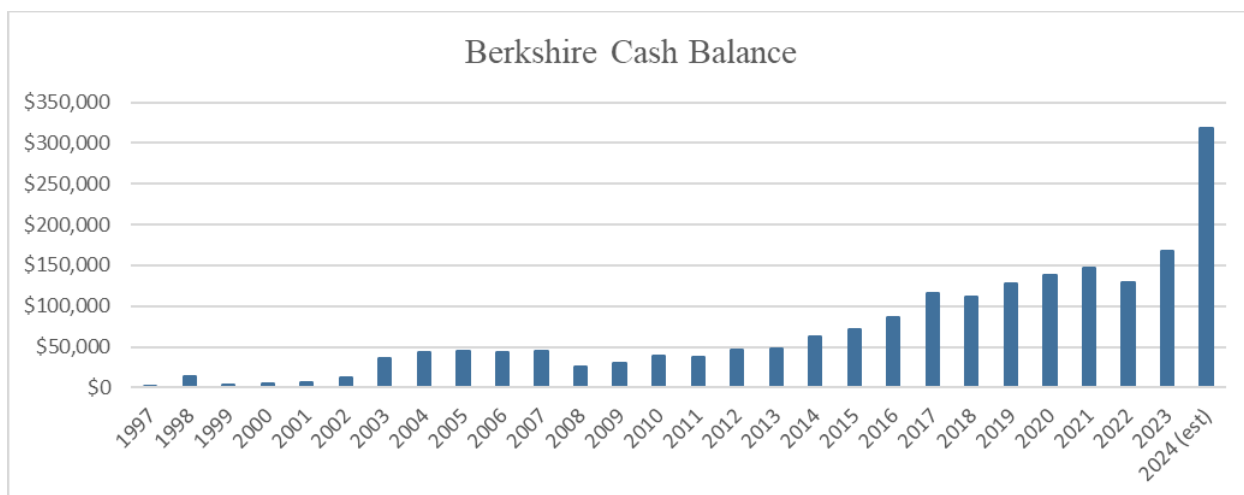
We make a generally material upward adjustment to Berkshire's reported profits that assumes much of Berkshire's cash will be put to good use, and reasonably soon. Specifically, the adjustment assumes Berkshire will earn 7% pretax minus the current yield on U.S. Treasury bills on cash balances in excess of Berkshire's stated \$30 billion minimum cash floor *plus* the amount of cash expected to be paid in a year for claims *paid* in the insurance operation (\$50 billion in 2024). Thus, we assume Berkshire's permanent cash reserve is \$80 billion. A good way to view this figure is as a proxy for fixed-income and cash required to be held as reserves supporting the aggregate insurance operation. I don't think cash will fall below my combined figure combining management's stated \$30 billion minimum and at least \$50 billion supporting the insurance operation, unless Berkshire buys a boatload of bonds in the insurance operation. Bonds are only a tiny \$15.5 billion in 2024, 2.7% of investment assets in the insurance group.

Cash held at non-insurance subsidiaries are *excluded* from our optionality adjustment. Thus, only cash in the insurance operation and at the holding company receive the adjustment. The adjustment added a scant \$750 million to 2023 GAAP profits but a much larger \$6.2 billion in 2024. The difference represents 2024's enormous cash balance and lower yields on U.S. Treasury bills than a year ago.

The upward adjustment is earnings based only. It does not double count marketable securities or firm assets in a balance sheet analysis. The base assumption is that a portion of invested assets in cash are earning less than they will over time. Depending on whether higher-yielding investments are made and at what yields makes the adjustment worthy of critique, in whole or in part.

Berkshire's cash position generally merits more media attention than it deserves but is worthy of journalistic admiration (condemnation more likely). Cash recently earned nearly nothing until the Fed hiked interest rates in 2022. At this writing in early 2025 Treasury bills yield 4.3% and over 5% earlier in 2024. The firmwide cash balance will likely total at least \$318 billion at year-end 2024. Cash is 27% of firm assets, the highest on record. The relationship was 16% a year ago on December 31, 2023 and reached as high as 23% in 2004 and 2005. It's averaged 13% since purchasing General Re in 1998. Prior to that merger cash totaled a scant 2% of Berkshire's total assets. It grew to 11% upon the merger.

Below is an updated chart of Berkshire's cash position from 1997 through our 2024 estimate. Notice that cash tends to decline during years when stocks (good ones presumably) are on sale and rises when they are not. Mount Berkshire's 2024 summit is easy to spot.



Source: Berkshire Hathaway; Semper Augustus

The top chart above takes the shape of a ski jump and then a rocket, causing anxiety among Berkshire watchers.

Cash as a percentage of assets was discussed above. The bottom chart depicts Berkshire's net debt to firm shareholders' equity (book value). Net debt is firmwide debt minus cash. When cash exceeds debt, the figure is negative. At year-end 2024 it's negative. Bigly. Berkshire typically maintains a net unleveraged but not too-cash-heavy capital structure. Net debt to equity at negative 30% is remarkably not a Berkshire record. It ranged from 33% to 41% over the three years 2003 to 2005. Our chart makes apparent why the brass in Omaha refers to the Fort Knox balance sheet.

It's this historical perspective that allows doubt to creep into the method for assuming a higher return on much of the cash balance. The counterpoint is most of the leverage on the consolidated balance sheet is utilized in the railroad and the energy businesses. The debt in these groups is *not an obligation* of Berkshire – it's standalone to the subsidiary and not hypothecated to the parent. It's also geared at a proper level for those businesses. If you hold those two subsidiaries aside from consideration, then the rest of Berkshire is quite liquid and has room to invest a substantial portion of cash reserves. High cash balances were opportunistically deployed in the past and Mount Berkshire will be put to good use again. See the earlier capital allocation discussion.

Is it aggressive assuming a return that's not being earned currently? We don't think so. When Berkshire invested in Occidental preferreds at 8%, callable later at a premium (plus warrants), there was very little net yield pickup at the time versus what was then our 6.9% optionality premium to T-bills then earning 0.1% (7% minus 0.1%). The optionality premium shrinks as T-bill rates rise. At 5% on bills, the optionality premium shrinks to 2%. If bills yield 7% there is no optionality premium (and at 7% lots of things will have broken in the meantime and we'd expect less cash). Similarly, when common stocks are purchased, Berkshire picks up the earnings yield, not counting whatever happens to the share price or future growth.

Apple at the time of purchase was trading at 10x earnings, a 10.0% earnings yield. Of course, the annual gain on the Apple investment *far* exceeded both the earnings yield *and* the Semper opportunity cost yield. With more Apples, or BNSFs, or GEICOs, the Semper 7% looks rather puny. Share repurchases are retired at Berkshire's earnings yield.

The hypothetical "income" picked up with our method breaks down if investable cash lingers permanently, a genuine risk if the two-decade range for cash to assets or net debt to equity are any barometer. In the grand scheme of things, we're talking about roughly three-fourths of current record cash balance genuinely investable. At Berkshire's conservative presumption that cash won't fall below \$30 billion and our addition of one year of insurance losses paid as cash, \$238 billion remains available as dry powder. That's 20% of total firm assets. One final thought: If longer-term yields rise from current levels, it wouldn't be surprising to see Berkshire increase fixed-income holdings in the insurance portfolio and reduce cash there. Maybe.

Reduce Net Income to Reflect Higher Normalized Pension Expense

The pension adjustment methodology we've used for more than a quarter century was covered in past letters. Here we'll just overview the earnings adjustment for Berkshire in 2024 and only for educational purposes. If you own or analyze the shrinking number of companies with large legacy defined benefit plans, I encourage you to read our old letters. In a nutshell, we generally apply a 4% assumed rate of return on the fair value of pension assets versus Berkshire's 6.0% (up from 5.9% in 2022) and run the difference as an annual expense through the income statement. We do the same by amortizing the collective pension benefit obligation (PBO) underfunded status over ten years, assuming a full funding over a decade. The combination using Berkshire's most recent 2023 10-K filing suggested Berkshire would commit an additional \$268 million pre-tax and \$211 million after-tax to its pension funds annually. 2024's market gains would eliminate any unfunded pension status meaning we assign no charge against normalized earnings. As it is, Berkshire's combined defined pension plans are \$612 million overfunded against its pension benefit obligation, meaning no Semper charge and no balance sheet liability.

This adjustment in Berkshire's case was never material. We don't try to figure out what any charge will look like until release of each year's annual report. Low interest rates combined with rich stock prices made our very long-standing 4% assumed return conservatively realistic when analyzing companies with large defined benefit plans. It's never been meaningful here because Berkshire's pension plans at the subsidiaries are small and it regularly assumes both lower expected investment returns and allocates more to public equities than most.

Our method is *far* from actuarially correct but has proven reliable. What the method has done is kept us out of old businesses where the pension plan rivals the business in size and importance. It captures the huge one-off funding that takes place periodically, with the CFO suggesting analysts *ignore* the \$4 billion we just borrowed and "invested" in the pension. No, no, no. Rather, \$400 million ought to have been

contributed annually for a decade. With many plans failing to achieve their return assumptions for more than 25 years, it's been a useful tool. Overall, the pension situation improved for investors. The number of companies with defined benefit plans is lower and return assumptions have come down from approximately 9.0% at the turn of the century (when stocks were at a secular peak and interest rates were far below 9%) to 6.5% more recently. With some companies it's a big deal. When interest rates require a microscope to identify and stock markets are at levels consistent with historical secular peaks, the issue is worth considering for the investor in companies with materially large pension fund obligations. It's been included in this letter for years and as part of our appraisal process as a teaching tool for young investors.

Other Non-Recurring Adjustments

From time-to-time additional adjustments are necessary. Non-tax adjustments at year-end 2017 for the TCJA can be seen in the summary table below. One adjustment irregularly occurs if the stock portfolio trades at a level we find dramatically overvalued or undervalued, where market value is adjusted with a discount or premium. This adjustment does not impact our earnings-based approach.

2020 required a non-cash adjustment reflecting a non-cash, non-tax-deductible write-down of \$10 billion in goodwill at Precision Castparts, plus another \$400 million *after-tax* charge against other intangibles. These "expenses" were properly dismissed as non-operating but cannot be ignored. The analyst cannot ignore the write-down and apply current and future profitability against a now lower equity balance, crediting the sinning management that overpaid for the assets requiring the charge. "Thou shalt not forget the price paid for an acquisition." Fortunately, you'd have to look and keep looking for these charges at Berkshire over the 60 years present management has run the place. They don't exist. "Ignore the expense as non-cash," suggests the convincing CFO, "but let me show you our return on equity, albeit written down." Lest you think the charges are immaterial, in 2020 write-offs and write-downs amounted to 23% of operating earnings, shrinking book value of the index by 2.9%. I highly recommend taking a meat cleaver to the 19.9% return on equity of the index in 2024. 2024 write-offs were at a much more modest 10.5%, typical during good times. When charges are low, batten down the hatches for the incoming recession and the big-bath, kitchen-sink write-offs that come with them.

2023 and 2024 require the \$1.3 billion and \$0.3 billion after-tax adjustments for non-tax loss accruals at BH Energy's PacifiCorp for 2020 wildfires, discussed earlier. Cash approximating the accruals will likely be paid, reducing cash and firm value, but including the accrual in BHE's current profitability and capitalizing an understated earning power figure will understate firm valuation. Perhaps this is the equivalent of CFOs educating sell-side analysts and eager to "beat-the-number" investors the merits of community-adjusted EBITDA. However, ours is simply trying to get at normalized earning power and how well investments perform. That's why we will always look to profitability at the MSR group by remembering how much Berkshire paid for Precision Castparts before writing-down \$10.4 billion of the equity. Do this for the S&P and the return on equity ain't 20%.

Final periodic adjustments, and here they do reflect earning power, are made at the subsidiary level and *not* in our GAAP-adjusted figures. The railroad would be an example today. Even at the railroad we simply note that we believe the business is underearning by \$1.4 billion but we don't include the upward adjustment in subsidiary earnings. It's simply noted in the financials and a supplemental return on equity calculation is made to demonstrate profitability at normal earning power.

Summary of GAAP Adjustments to Economic Earnings

After-Tax GAAP Adjustments to Economic Earnings: 2024 Expected (in billions)	2017	2018	2019	2020	2021	2022	2023	2024 (e)
Normalized Recurring GAAP Adjustment to Economic Earnings								
Add retained earnings of equity investees, taxed at 3% (1/7th of new 21% federal rate)	5.3	10.0	10.0	10.0	11.8	16.2	13.4	9.163
Add income for DTL's created with PP&E capex to reflect cash tax<GAAP tax	1.4	1.4	1.7	1.7	1.4	1.6	1.1	1.1
Add 90% of amortization charge for intangibles (was 80%)	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.232
Add optionality premium for near/intermediate investments with cash>(1-year insurance losses) + \$30 billion	2.7	2.3	3.8	5.5	3.2	0.2	0.7	6.183
Reduce net income to reflect higher normalized pension expense	-0.5	-0.5	-0.4	-0.4	-0.4	-0.3	0.0	-0.001
Normalized Recurring GAAP Adjustment to Economic Earnings (before removing realized g/l)	\$ 9.9	\$ 14.1	\$ 16.0	\$ 17.9	\$ 17.1	\$ 18.7	\$ 16.5	\$ 17.677
Periodic or Irregular in Amount or One-Time Adjustments to GAAP Net Income								
Remove realized and unrealized gains/losses, including from derivative liabilities; 21% tax rate beginning 2018	-1.4	17.7	-57.4	-31.6	-62.3	53.6	-59.1	-42.128
Remove reported underwriting gain/loss	2.2	-1.6	-0.3	-0.7	-0.9	0.03	-5.4	-6.000
Add normalized underwriting profit, retroactive reinsurance and periodic payment annuity losses	2.1	2.2	2.4	2.6	2.7	2.9	4.3	4.7
Berkshire TCJA Adjustment one-time non-cash	-28.2							
Kraft Heinz TCJA Adjustment one-time non-cash	-1.7							
Write-down after-tax of PCC 2020 (\$10B goodwill and \$0.4B net intangibles)				10.4				
PacifiCorp Wildfires Loss Accruals \$1.6B pretax noncash 2023							1.3	0.316
Total Periodic or Irregular in Amount or One-Time Adjustments to GAAP Net Income	\$ (27.0)	\$ 18.3	\$ (55.3)	\$ (19.3)	\$ (60.4)	\$ 56.6	\$ -58.9	\$ (43.1)
GAAP Net Earnings (From Income Statement)	\$ 44.9	\$ 4.0	\$ 81.4	\$ 42.5	\$ 89.8	\$ -22.8	\$ 96.2	\$ 85.895
Total Adjustment (assumes no 4Q18 gain/loss on investments or irregular underwriting gain/loss)	\$ (17.2)	\$ 32.4	\$ (39.3)	\$ (1.4)	\$ (43.3)	\$ 75.3	\$ -42.5	\$ (25.4)
Semper Adjusted Net Income; Economic Earnings ^*	\$ 27.8	\$ 36.4	\$ 42.1	\$ 41.1	\$ 46.5	\$ 52.5	\$ 53.8	\$ 60.460

Source: Semper Augustus; Berkshire Hathaway and Subsidiary SEC Filings

Annual adjustments are all over the map. Big movers are removing year-to-year gains and losses from investments and to a lesser degree short-term underwriting results, replacing each with logical normalization factors. Volatility in marketable securities and underwriting make analyzing the operations of Berkshire's reported results impossible. Assessing economic profitability requires an understanding of accounting strengths and weaknesses. Sometimes GAAP is CRAAP.

In total, the process eliminates the reported volatility that comes with owning a large portfolio of common stocks as well as the period-to-period swings in underwriting profitability among a diverse group of insurers. We capture the degree to which some intangibles do not decay in value; whether or when Berkshire will invest its cash reserves and into how much incremental earning power; the proper economic versus accounting treatment of insurance "float"; the difference between reported and cash taxes actually paid, now and prospectively. The process gets us to a durable appraisal of earning power.

Methods and granular estimates used in our process are open to debate. Berkshire is so diverse that the number of adjustments required in arriving at an understanding of durable earning power makes for quite an exercise. An equally important method for valuing Berkshire is through an analysis of its individual components, or at least large clusters of groups. A sum-of-the-parts analysis reconciles closely with GAAP adjustments made to the rolled-up consolidated financial statements because adjustments made within the "parts" are also incorporated top down. Accounting adjustments applied to the whole also apply individually to the segments. The analyst can choose to modify assumptions used at each step, adopt some, or dismiss the method entirely. The GAAP adjusted approach reconciling against other methods used discerns what we believe is a conservative appraisal of Berkshire Hathaway's intrinsic value. Following the adjustments allows for a straightforward method of converting GAAP reported quarterly and annual figures to normalized.

It's important that our clients understand how we view measurement of earning power at what has been Semper's largest holding for more than two decades. Any concern that a public presentation of the approach would drive the stock up to fair value and make the shares unbuyable has been proven not a concern. Warren Buffett and Charlie Munger long wondered at Berkshire's annual meeting why so few emulate a system that's worked so well for what's now a year shy of six decades. To the extent the shares trade with a sizable and persistent discount to a reasonable appraisal of intrinsic value suits us just fine. Price matters, but only if one appreciates value.

SUMMARY

A message written three years ago on a number of subjects contained a commitment to The Big Guy. It wasn't for 10% or anything like that. Instead, in closing, I offered, "My intent is in shrinking the letter by 2.6 pages per year so when I'm 91 mine will match yours in length. It looks like I'm failing on that front this year. Even this was intended to be one page..."

After covering the business at hand, the final paragraph of the reply was priceless, "My annual letter this year will be a little shorter than in the past, so you'll have to accelerate the shrink rate in your own. Best regards, Warren"

Welp. The Semper letter that year ran 129 pages, including appendix. When I see many of you over the course of this year and insist that next year's Semper annual letter will definitely be shorter, remind me of the title to this year's manuscript.

Extreme concentration atop the U.S. stock market occurs at secular peaks, resulting in bifurcation whereby value often exists beneath the surface but largely goes unrecognized. As bubbles expand, speculation, promotion, scams, grift and fraud become rampant. Most investors own the most overvalued, highly-concentrated portion of the market by the peak. Nobody rings a bell. Speculators are burned by charlatans. If 2021, or today's extension of the moment, doesn't wind up being a secular peak, then we don't know ducks. This one looks, walks and sounds mighty fowl.

When a small cluster of seven companies' stock market values comprise more than 35% of market capitalization and earn more than 25% of all the profits of a stock index that itself is 80% of the market value of all of the stocks in the country, the country whose stocks are valued at half of all of the stocks in the world, then something's gotta give. Sales and profits of the seven, or more appropriately of a few dozen, may, and for a time will, grow quicker than the aggregate. But at a point their valuation, sales and profits will equal 100% of the aggregate, which is highly unlikely. The mathematical truth is seven or forty-eight companies cannot be worth *more* than 100% of the total. They *can* be worth 100%, but then there are only seven companies remaining. Or forty-eight.

Is there runway for the trend toward more concentration to persist? Sure. But between here and there, something gives. It gave when the dot-coms burst. It gave when the Nifty Fifty became less than nifty. It gave when expectations of Japan being worth more than all of the world faded. It gave in 1929. Schumpeter was on to something. Whether it be competition, regulation, disruption, obsolescence or simply the law of large numbers, there is no record of any company or any industry reaching 100% of the total. Tongue back from cheek, there is a size where size becomes self-defeating. We've seen it in diminishing returns when government debt reached a proportionate share of GDP to where the next dollar of leverage is not only stimulative but constricts output.

The portfolio is in great shape. At 10.3x earnings, 41% of the multiple of the S&P 500, we enter 2025 near the lowest valuation in our 26 years, both absolutely and relative to the capitalization-weighted U.S. stock market. The portfolio trades for an even lower 33% and 29% of index book value and sales respectively. Our companies have a far healthier collective balance sheet, outstanding management in place, and generally excellent prospects to reinvest earnings not distributed as dividends. Valuation and business quality combine to hopefully match or surpass investment returns earned over the past more than a quarter century.

Berkshire, our largest holding, is a diversified, durably predictable business earning above an unleveraged 10% return on equity capital. Despite sizable gains over the last two years, the shares remain at an

attractive discount to intrinsic value. Thanks to de-risking the investment portfolio by trimming more than 70% of the hugely profitable Apple investment, Berkshire sits on a war chest of dry powder, poised to take advantage of certain volatility and disruption. When leverage is employed on a net basis it's always modestly judicious. The cash pile, Mount Berkshire, is so large today that cash alone is more than 2.5x all of the debt used across the various subsidiaries. You won't find more conservative accounting and outstanding governance anywhere. Having all of these rare qualities in one business suggests reliably predictable returns for years to come. The Berkshire position will *not* be our highest performing. It is, however, our most knowable and predictable. We use the investment as our standard of opportunity cost regarding valuation, business quality and expected return, the perfect hurdle.

I can't wrap up the letter without again thanking Lincoln Minor. I don't recall for how many years Linc has slogged through difficult-to-read drafts, but his editing help is simply extraordinary. The guy works in a big position at the USDA but dedicates extremely long weekends and evening hours whipping this document into shape. You will see Lincoln often running around Omaha with me. Say hi to him sometime, and if you enjoy the letter, let him know how valuable he is. Thank you, my friend.

Putting this letter together requires enormous dedication by everyone here at Semper. Production of graphs and tables, streamlining with databases, editing, input and the final publication couldn't have been pulled off without the folks here working through evenings and weekends. Hat tip to Avery, Ben, Lance and of course Chad for the yeoman's effort this year.

Semper is blessed with an exceedingly talented team of amazing individuals. They are a pleasure to work with. Our duty is stewardship of your capital, but I don't think you will find a better group of people with better demeanor and who provide better client service. Care of your capital comes with the highest responsibility. We will never approach the mission with anything short of our undivided focus and care. Mr. Buffett's message at last year's annual meeting resonates around here. I confidently speak for Chad and the team in saying we like being trusted and find kindness to be the ultimate trait. As always, we remain humbled by your confidence.

I owe a debt of gratitude to so many of you who devote the time to reading this letter each year. It's a labor of love for me. I always learn during the process, making the effort worthwhile. Delving into subjects beyond day-to-day company and industry analysis forces the mind outside the box. Your commitment to the letter and understanding the investment process allows for wonderful relationships. We look forward to catching up throughout the rest of the year.

In closing, great friend Joe Koster queried on the odds of "Fartcoin" making an appearance in the letter. Without thinking, I reflexively replied one to one billion. On further consideration, no room exists on these pages for that kind of vulgarity, this being a wholesome, G-rated endeavor. Not to mention, we have a thing against promotion of speculative fantasy around here. So, no, Joe. No mention this year. I hope you took the correct side of the line.

Christopher P. Bloomstran

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APPENDIX

Appendix A: Key Business Segment Information – Berkshire Hathaway 2024 Expected

Berkshire Hathaway Energy (100.0% owned in 2024)		BNSF		MSR Businesses + Finance & Financial Products	
Revenues Total	\$26.1 B	Revenues	\$23.6 B	Revenues	\$166.9 B
Energy Operating Revenue	\$21.4 B	EBIT	\$8.1 B	Pre-Tax Income (includes MSR intangibles amortization)	\$16.0 B
Real Estate Operating Revenue	\$4.2 B	Pre-tax Income	\$7.0B	Pre-tax Margin	9.6%
Other Income (Loss)	\$0.45 B	Net Income (norm tax rate now 24.0%)	\$5.2 B	Net Income at 23.4% assumed tax rate	\$12.1 B
Pre-tax Income (Excludes gain/loss BYD and invest.)	\$2.7 B	Net Income (cash tax adjusted)	\$5.6 B	Profit margin	7.3%
Income Tax Expense (Benefit)	\$-2.0 B	Normalized Net Income	\$7.0 B	Goodwill (net of 2020 PCP \$10B write-down)	\$34.5 B
Net Income (GAAP)	\$4.7 B	Goodwill (BNSF SEC and STB filings)	\$15.4 B	Other Intangibles (net of 2020 PCP \$600m write-down)	\$26.7 B
Non-Controlling Interests of BHE Subs	\$0.287 B	Equity (estimated from STB and GAAP filings)	\$50.5 B	Total Assets (Identifiable + Intangibles)	\$214.0 B
Net Earnings Attributable to BHE	\$4.6 B	Total Assets	\$95.8 B	Equity (Write-down 10.0 and 0.6 PCC 2020)	\$146 B
Non-Controlling Interests	\$2.87 B	Debt (with operating lease liability)	\$24.2 B	DTL (Unallocated estimate)	\$14.5 B
Preferred Stock Dividend to BRK	\$0 B	Cash	\$1.9 B	Depreciation of Tangible Assets	\$3.6 B
Net Earnings Attributable to BRK	\$4.3 B	Interest	\$1.082 B	Capital Expenditures	\$4.6 B
Net Earnings Attributable to BRK (Adjusted for cash taxes)	\$4.8 B	After-Tax Interest	\$0.855 B	Total Debt (allocated interest expense Ins & Other & Unallocated to Subs)	\$24.0B
Net Earnings Attributable to BHE (Adjusted for cash taxes)	\$5.2 B	Deferred Tax Liability	\$15.3 B	Cash (Offset to Debt; Balance to HoldCo)	\$21.9 B
Net Earnings BHE Adjust Pacificorp Wildfires 0.4B pretax	\$5.364 B	Equities as an Investment	n/a	Interest	\$0.905 B
Net Earnings BRK Adjust Pacificorp Wildfires	\$4.88 B	Depreciation and Amortization	\$2.6 B	After-Tax Interest	\$0.715 B
Reported Tax Rate (Derived MD&A-not cash adjusted)	-76.5%	Capital Expenditures	\$3.9 B	ROE (If equity 10.6B higher for PCP writedown: 8.8%)	8.3%
Cash Tax Rate (Deferred taxes exceed reported tax)	-107.0%	ROE GAAP Net Income	10.5%	ROTE (excluding goodwill & other intangibles)	14.2%
Goodwill (From BHE 10-Q, 10-K)	\$11.5 B	ROE Adjusted for Cash Taxes 13.0% Normalized	11.1%	ROC Net of Cash	8.7%
Deferred Tax Liability (Including investments)	\$12.4 B	ROC Net of Cash 11.1% Normalized	8.9%	Estimated Value	\$230-244 B
Amortization of Intangibles	\$0.257 B	Estimated Value	\$120-140 B	Implied P/E	18-19
Depreciation	\$3.9 B	Implied P/E (on net adjusted for cash taxes)	17-20	Pilot Travel Centers	
Capital Expenditures	\$8.8 B	HoldCo		Revenues	\$48.0 B
BYD and Other NDC Trust Stocks; BYD \$0.775B)	\$1.725 B	KHC 26.5%; 325,635m shares (MV \$10.000 B 2024; cash cost \$9.8 B)	\$13.008	Cost of Good Sold	\$43.4 B
BHE Equity (Including BYD, NDCs, Rabbi and Non-Control)	\$51.9 B	KHC Market Value Adjustment	-\$3.008	Operating and Other Expenses	\$3.4 B
BHE Non-Controlling Int (75% Cove, 50% Iroquois and ETT)	\$1.3 B	Additional KHC Deferred Tax Liability/Asset not on BS	\$0	Interest Expense	\$0.309 B
BHE Equity Net of BHE Non-Controlling Interests	\$50.6 B	OXY 29.2% common; 264.1814m shares (MV \$13,053; cash cost \$ 14.5)	\$17.072	Pre-tax Earnings	\$0.951 B
BHE Equity Net of NCI and Net of BYD/Investments	\$48.9 B	OXY Market Value Adjustment	-\$4.019	Income Tax and Noncontrolling Interests	\$0.95 B
BRK Non-Controlling Interests (0 in 2024)	\$0 B	Additional OXY Deferred Tax Liability/Asset not on BS	\$0	Net Earnings to BRK	\$0.856
BRK Equity in BHE (100% at 9/30/24 net of BHE NCIs)	\$50.6 B	Other Equity Method (Berkadia, ETT(in BHE))	\$0.453	PPE	\$8.0 B
BHE/BRK Equity (Excluding \$3.5 B Investments Net of DTL)	\$48.8 B	Itochu, Mitsubishi, Mitsui, Sumitomo, Marubeni (\$19.7B in Insurance)	\$0	Goodwill (\$14.3B reclass; Deductible for tax)	\$6.6 B
Total Assets (Including BYD and Investments)	\$141.8 B	Diageo \$606M, IAG AU Sold, Taiwan Semi Sold (In Insurance)	\$0	Other Intangibles	\$6.9 B
Debt	\$57.3 B	BHE Holdings (BYD \$2.394B; Rabbi Trusts/NDCs \$0.830B in BHE)	\$0	Other Assets Acquired	\$7.0 B
Cash	\$2.9 B	Cash (MSR cash assumed to offset MSR debt; Annual in HCO financials)	\$13.875	Notes Payable	\$5.1 B
Interest	\$2.722 B			Other Liabilities	\$4.9 B
After-Tax Interest	\$2.150 B	TOTAL HOLDCO ASSETS	\$37.381	Noncontrolling Interests, Redeemable	\$3.37 B
ROE GAAP w/ % DTL Includes \$9.7 billion goodwill)	9.3%	Debt	\$19.638	Equity (Gross of \$3.0 B non-tax Remeasurement)	\$14.42B
ROE (Adjusted for cash taxes)	10.3%	Additional HoldCo Deferred Tax Liability (All balance to MSR)	\$1.229	Equity (Net of \$3.0 B non-tax remeasurement)	\$11.4 B
ROC Net of Cash	7.1%	HOLDCO NET ASSETS	\$16.514	Return on Equity (Normalized Net Margin 1.5-2.5%)	6.0%
Estimated BHE/BRK Value With BYD Net of Tax and NCI	\$86-91 B	KHC Eq Method Earnings (increase cost basis; (e) full 21% tax difference)	\$0.417	Return on Equity (Net of \$3.0 B non-tax remeasurement)	7.5%
Implied P/E	16-17	Divs KHC (\$522m; Reduce basis; Not an offset to Income)	\$0	Estimated Value	\$15-17 B
		OXY Equity Method Earnings Normalize \$6B (increase cost basis; (e) full 21% tax	\$1.017	BRK Estimated Value	\$12-14 B
		Divs OXY (\$206m; Reduce basis; Not an offset to Income)	\$0	Implied P/E	15-17
		Other Equity Method Earnings	\$0.086		
		Distributions Received Other Eq Method (\$56m; Reduce basis; Not an offset)	\$0		
		Intangible Amortization of Non-MSR Subs Taxed at 21%	\$0.647		
		Interest Income; tax 21%	\$0.597		
		Retained Earnings of BYD/other BHE Stocks; Tax 7%; Not attributed to BHE	\$0.086		
		Optionality of holdco cash with \$30B permanent: \$4.8B @ 7% - 4%; tax 21%	\$0.213		
		Interest Expense (Not allocated to subs; 1.45% interest rate!!!)	-\$0.636		
		G&A (Not allocated to subs)	-\$0.244		
		Forex gains/losses on non-US denominated debt (E \$1.733 B 2024 non recurring)	\$0.000		
		Normalizing Net Pension Expense for GAAP Adjustment (Expect Fully Fd 2023)	-\$0.001		
		Net Investment Income Pre-Tax	\$2.182		
		Net Investment Income After-Tax	\$1.736		
		Estimated Value (Investments - HoldCo Debt)	\$16.5		

Insurance Operations - Estimated at December 31, 2024		Insurance Investments (December 31, 2024 estimated)	
Premiums Earned (Excludes Retroactive Premiums Earned)	\$87.8 B	Equity Securities (Includes \$8.5B OXY Pfd's was 10.0B and 1.275B Warrants)	\$271.7 B
Statutory Surplus (Equity) \$237B 2020; 301B 2021; 272B 2022; \$303B 2023)	\$348 B	Fixed Income Securities	\$15.5 B
Book Value GAAP (Reconciling to Subs - likely inaccurate)	\$351 B	Cash	\$277.0B
Float (147B '21; 164B 2022; 169B '23)	\$176 B	Other (\$0 was \$0.850 BHE Pfd: Was 3.75, 1.45 paid 21, 800 paid 22; Seritage Term Loan)	\$1.0 B
Losses Paid	\$50 B	Total Investment Assets (326.1 Y/E 19; 363.1 20; 446.3 Y/E 21; 414 Y/E 2022; 492 Y/E 23)	\$565.2 B
Expected After-Tax Underwriting Gain 2024:	\$6.0 B	Investment Income and Earnings (to reconcile)	
Normalized Underwriting Margin: 5% Pre-tax (Ex Retro and PPA Amortization)	\$4.4 B	Dividends (Annualized at 12/31; Excludes OXY Pfd) Tax at 13.125% for less than 20% owned	\$4.891 B (1.80% div yield)
Normalized Retroactive and Periodic Payment Annuity Margin Adjustment	\$1.5 B	Retained Earnings of Common Stocks; Tax at 3%	\$9.048 B (3.33% REY)
Combined Normalized Pre-tax Underwriting Profit	\$5.9 B	Total Earnings of Common Stocks	\$13.938 B (19.5x P/E; 5.13% EV)
Normalized Underwriting Net Profit	\$4.7B	Hypothetical Earnings of Stocks at 10% Annual Total Return; 1.8% DY; 8.2% EY 22.279 RE; €	\$27.17 B
Goodwill (Includes \$3.1 B from Alleghany)	\$16.6.0 B	Divs on OXY Preferred (Recently paid as cash)	\$0.680
Other Intangibles (All from Alleghany)	\$2.659 B	Interest on Fixed Income and Cash; Tax at 21%	\$14.0 B
DTL (Investment Gain+Def Charges Reins-Unpaid Losses/LAE-Unearned Premiums)	\$46.0B		
Insurance Estimated Value		Total Pre-Tax Earnings of Investments (\$17.3B 2019)	\$28.618 B
Total Investment Assets	\$565.2 B	Optionality of Cash > One-Year Losses Paid #	\$6.129 B
Stocks premium/discount 15% 2021 (-19B 2019; -39B 2020; 50B 2021; 0 2022)	\$0 B	Pre-tax Earnings with Optionality of Surplus Cash **	\$34.747 B
Capitalized Value from Underwriting	\$70.5 B	Paid and Hypothetical Taxes (11.0% blended; RE of stocks 3%)	\$4.101 B
Estimated Value; Implied P/E 20.75x	\$636 B	Investment Net Income	\$30.65 B

Appendix B – Capital Expenditures and Depreciation; Deferred-Tax Liabilities

CAPITAL EXPENDITURES AND DEPRECIATION; DEFERRED TAX LIABILITIES																						
(Dollars in millions)																						
Berkshire Total (All Operating Businesses)																						
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Capital Expenditures	1,278	2,195	4,571	5,373	6,138	4,937	5,980	8,191	9,775	11,087	15,185	16,082	12,954	11,708	14,537	15,979	13,012	13,276	15,464	19,409	19,691	226,822
Depreciation	941	982	2,066	2,407	2,810	3,127	4,279	4,683	5,146	5,418	6,215	6,673	7,411	7,719	8,386	8,747	9,319	9,465	9,666	10,658	10,808	126,926
Difference	337	1,213	2,505	2,966	3,328	1,810	1,701	3,508	4,629	5,669	8,970	9,409	5,543	3,989	6,151	7,232	3,693	3,811	5,798	8,751	8,883	99,896
BHE																						
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (E)	2024 (E)	Total
Capital Expenditures			2,423	3,513	3,936	3,413	2,593	2,684	3,380	4,307	6,555	5,876	5,090	4,571	6,241	7,364	6,765	6,611	7,505	9,148	8,795	100,770
Depreciation			949	1,157	1,128	1,246	1,262	1,333	1,440	1,577	2,177	2,451	2,560	2,548	2,830	2,947	3,376	3,584	3,702	3,913	3,900	44,080
Difference	-	-	1,474	2,356	2,808	2,167	1,331	1,351	1,940	2,730	4,378	3,425	2,530	2,023	3,411	4,417	3,389	3,027	3,803	5,235	4,895	56,690
BNSF																						
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (E)	2024 (E)	Total
Capital Expenditures							1,829	3,325	3,548	3,918	5,243	5,651	3,819	3,256	3,116	3,608	3,063	2,910	3,532	3,920	3,919	54,657
Depreciation							1,221	1,480	1,573	1,655	1,804	1,932	2,079	2,304	1,890	2,350	2,423	2,406	2,479	2,581	2,650	30,827
Difference	-	-	-	-	-	-	608	1,845	1,975	2,263	3,439	3,719	1,740	952	1,226	1,258	640	504	1,053	1,339	1,269	23,830
BHE + BNSF																						
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 (E)	2024 (E)	Total
Capital Expenditures			2,423	3,513	3,936	3,413	4,422	6,009	6,928	8,225	11,798	11,527	8,909	7,827	9,357	10,972	9,828	9,521	11,037	13,068	12,714	155,427
Depreciation			949	1,157	1,128	1,246	2,483	2,813	3,013	3,232	3,981	4,383	4,639	4,852	4,720	5,297	5,799	5,990	6,181	6,494	6,550	74,907
Difference	-	-	1,474	2,356	2,808	2,167	1,939	3,196	3,915	4,993	7,817	7,144	4,270	2,975	4,637	5,675	4,029	3,531	4,856	6,574	6,164	80,520
DEFERRED TAX LIABILITIES *																						
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 **	2018	2019	2020	2021	2022	2023	2024 (E)	
Investments	11,020	11,882	14,520	13,501	4,805	11,880	13,376	11,404	16,075	25,660	26,633	36,770	27,669	24,251	17,765	32,134	40,181	55,437	41,150	56,766	41,710	
Def Ch Reinsurance Assumed	955	828	687	1,395	1,373	1,385	1,334	1,449	1,392	1,526	2,721	2,798	2,876	3,226	2,970	2,890	2,613	2,234	2,073	1,994	1,894	
PP&E	1,201	1,202	4,775	4,890	7,004	8,135	24,746	28,414	29,715	32,409	34,618	36,770	39,345	26,671	28,279	29,388	30,203	31,323	32,080	32,991	33,600	
Goodwill and Intang												2,770	11,344	7,204	7,199	7,293	6,753	6,748	7,010	7,546	7,700	
Other	1,174	1,165	2,591	2,743	4,024	4,236	5,108	6,378	6,485	6,278	6,396	4,555	5,550	3,216	3,187	3,144	3,736	4,094	4,695	4,452	4,275	
Total	14,350	15,077	22,573	22,529	17,206	25,636	44,564	47,645	53,667	65,873	70,368	83,663	86,784	64,568	59,400	74,849	83,486	99,836	87,008	103,749	89,179	

Source: Semper Augustus

Appendix C – Cash and GAAP Tax Reconciliation

CASH TAXES AND GAAP TAXES																									
	Cumulative	2024 (e)	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003		
Earnings Before Tax	768,753	107,071	120,166	-	30,500	111,861	55,693	102,696	4,001	23,838	33,667	34,946	28,105	28,796	22,236	15,314	19,051	11,552	7,574	20,161	16,778	12,791	10,936	12,020	
GAAP Taxes **	178,480	20,438	23,019	-	8,502	20,912	12,440	20,904	-	321	6,685	9,240	10,532	7,935	8,951	6,924	4,568	5,607	3,538	1,978	6,594	5,505	4,159	3,569	3,805
Net Income *	590,273	86,633	97,147	-	21,998	90,949	43,253	81,792	4,322	17,153	24,427	24,412	20,170	19,845	15,312	10,746	13,494	8,441	4,994	13,213	11,015	8,528	7,308	8,151	
Tax Rate	23.2%	19.1%	19.2%	-	27.9%	18.7%	22.3%	20.4%	-8.0%	28.0%	27.4%	30.1%	28.2%	31.1%	31.1%	29.8%	29.4%	30.6%	26.1%	32.7%	32.8%	32.5%	32.6%	31.7%	
Current Taxes	105,750	11,568	7,642	4,815	5,326	5,052	5,818	5,176	3,299	6,565	5,426	3,302	5,168	4,711	2,897	3,668	1,619	3,811	5,708	5,030	2,057	3,746	3,346		
Deferred Taxes	72,730	8,870	15,377	-	13,117	15,586	7,388	15,086	-	5,497	3,386	2,675	5,106	4,633	3,783	2,213	1,939	1,919	-	1,833	886	475	177	459	
Total Tax	178,480	20,438	23,019	-	8,502	20,912	12,440	20,904	-	321	6,685	9,240	10,532	7,935	8,951	6,924	4,568	5,607	3,538	1,978	6,594	5,505	4,159	3,569	3,805
Current as Percent of Total Tax	59.3%	56.6%	33.2%	-56.6%	25.5%	40.6%	27.8%	-1612.5%	49.3%	71.0%	51.5%	41.6%	57.7%	68.0%	63.4%	65.4%	45.8%	192.7%	86.6%	91.4%	49.5%	105.0%	87.9%		
Deferred as Percent of Total Tax	40.7%	43.4%	66.8%	156.6%	74.5%	59.4%	72.2%	1712.5%	50.7%	29.0%	48.5%	58.4%	42.3%	32.0%	36.6%	34.6%	54.2%	-92.7%	13.4%	8.6%	50.5%	-5.0%	12.1%		
Current Tax Rate	13.8%	10.8%	6.4%	-15.8%	4.8%	9.1%	5.7%	129.4%	13.8%	19.5%	15.5%	11.7%	17.9%	21.2%	18.9%	19.3%	14.0%	50.3%	28.3%	30.0%	16.1%	34.3%	27.8%		
Deferred Tax Rate	9.5%	8.3%	12.8%	43.7%	13.9%	13.3%	14.7%	-137.4%	14.2%	7.9%	14.6%	16.5%	13.1%	10.0%	10.9%	10.2%	16.6%	-24.2%	4.4%	2.8%	16.4%	-1.6%	3.8%		
Total Tax Rate	23.2%	19.1%	19.2%	27.9%	18.7%	22.3%	20.4%	-8.0%	28.0%	27.4%	30.1%	28.2%	31.1%	31.1%	29.8%	29.4%	30.6%	26.1%	32.7%	32.8%	32.5%	32.6%	31.7%		

Source: Semper Augustus

Firm Overview:

Semper Augustus Investments Group, LLC claims compliance with the Global Investment Performance Standards (GIPS®). For the purpose of complying with GIPS, SAI defines itself as Semper Augustus Investments Group, LLC, an independently registered investment adviser. For purposes of determining firm assets under management, SAI includes all discretionary and non-discretionary assets as well as all fee paying and non-fee paying.

Composite Description:

The Semper Augustus Fundamental Intrinsic Value Equity consists of portfolios managed for Semper Augustus' clients according to the firm's published investment philosophy. Semper Augustus employs a fundamental value investment strategy, identifying companies earning free cash returns in excess of a realistic estimate of the firm's cost of capital. Our firm defines risk as a permanent loss of capital, not as volatility around some mean. Portfolios have generally contained fewer than 30 holdings and are often concentrated in a small handful of businesses with high business quality and share prices at a significant discount to conservative appraisals of intrinsic business value. These dual margins of safety are crucial to the investment process, and lend themselves to generally long holding periods and low portfolio turnover. During periods of high volatility, turnover can be opportunistically higher. Investments are made across all market capitalizations, in both domestic and globally headquartered businesses. Our firm makes international investments in businesses domiciled in industrialized countries where the rule of law is strong and accounting standards are high. We are benchmark agnostic. Industry weightings are not a consideration. The composite includes the income and performance derived from various option-writing strategies in some client accounts. Allocations to cash are a byproduct of the investment process and not a permanent allocation. To be included in the composite, accounts must meet certain thresholds of equity securities purchased by SAI. This method generally excludes accounts that are managed as "balanced" accounts and client accounts that have not met the required threshold for inclusion. Cash and equivalents have been significant holdings at times.

Index Return Information:

The MSCI ACWI returns are gross of any fees required to replicate the index and are also pre-tax. The index is theoretically passive (unmanaged) but in reality, replication requires trading costs and some management fees. Fundamental Intrinsic Value Equity may differ materially from the index as the Fundamental Intrinsic Value Equity owns concentrated positions and the MSCI ACWI has a bias towards large cap stocks. Fundamental Intrinsic Value Equity has included varying investments in small, mid and large cap stocks in addition to investments in cash and short-duration fixed income securities. The MSCI ACWI is broadly used as an investment benchmark. The MSCI ACWI index is the benchmark for Fundamental Intrinsic Value Equity.

The S&P 500 returns are gross of any fees required to replicate the index and are also pre-tax. The index is theoretically passive (unmanaged) but in reality, replication requires trading costs and some management fees. The Fundamental Intrinsic Value Equity may differ materially from the index as the Fundamental Intrinsic Value Equity owns concentrated positions and the S&P 500 has a bias towards large cap stocks and holds only U.S. domiciled companies. Fundamental Intrinsic Value Equity has included varying investments in small, mid and large cap stocks, both foreign and domestic, in addition to investments in cash and fixed income securities. The S&P 500 is broadly used as an investment benchmark and is presented in this document to provide a clear measure of how the strategy did against the general stock market.

Composite Return Details:

Supervised assets are defined as assets acquired by SAI in client accounts based on the discretion granted in client agreements. This process involves the establishment of a model security and the dates whereby the security is held. For securities received into an account prior to or after the model period; directed purchases by a client; or corporate actions arising from non-model securities; these securities have been excluded from the supervised assets. SAI must have initiated the trade or the security was a model security when transferred into an account for its performance to be included in the composite.

Returns are presented both gross of management fee and net of management fees and performance fees and include the reinvestment of all income. The composite was created on March 1, 2018. The U.S. Dollar is the currency used to express performance.

Returns are presented net of all commissions and any margin interest expense incurred in the management of portfolio accounts. Composite management fees have been calculated as if the fees were charged each month based at the actual client contract rate on the month-end composite assets for each client. For family and employee accounts that do not pay a management fee, a fee of 1.25% was included in the composite management fees during the period when the accounts were included in the composite. Actual returns will be reduced by investment advisory fees and any other expenses that may be incurred in the management of the portfolio accounts. The collection of fees produces a compounding effect on the total rate of return net of management fees.

Gross of Fees Equities Only: Represents the actual performance of all equity securities included in the composite, including reinvested dividends. It is a pure equity only return and does not have any cash equivalents or fixed income securities included. Net of Fees Equity Only: Represents Gross of Fees Equities Only reduced by Composite management fees consistent with the net fee adjustment detailed above where Composite management fees have been calculated as if the fees were charged each month based at the actual client contract rate on the month-end composite assets for each client. For family and employee accounts that do not pay a management fee, a fee of 1.25% was included in the composite management fees during the period when the accounts were included in the composite.

Actual returns will be reduced by investment advisory fees and other expenses that may be incurred in the management of the account. The collection of fees produces a compounding effect on the total rate of return net of management fees. As an example, the effect of investment management fees on the total value of a client's portfolio assuming (a) quarterly fee assessment, (b) \$1,000,000 investment, (c) portfolio return of 8% a year, and (d) 1.00% annual investment advisory fee would be \$10,416 in the first year, and cumulative effects of \$59,816 over five years and \$143,430 over ten years. The annual composite dispersion presented is an asset-weighted standard deviation. To obtain a GIPS Composite Report and/or the firm's list of composite descriptions, please contact Chad Christensen at csa@semperaugustus.com. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

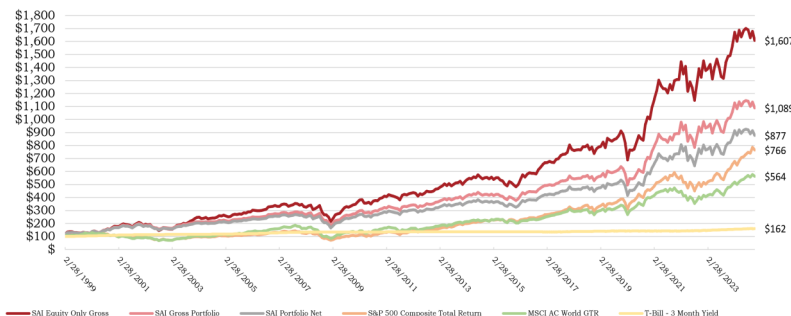
Past performance is not indicative of future results.

Year End	Composite Performance				MSCI All Country World Index	S&P 500
	Gross of Fees	Net of Fees	Gross of Fees Equities Only*	Net of Fees Equities Only*		
1999**	29.9%	28.8%	29.1%	28.1%	27.5%	19.9%
2000	26.8%	25.6%	30.7%	29.5%	-14.0%	-9.1%
2001	20.8%	19.7%	23.1%	22.0%	-15.9%	-11.9%
2002	-15.5%	-16.2%	-22.0%	-22.7%	-19.0%	-22.1%
2003	21.8%	20.8%	38.2%	37.1%	34.6%	28.7%
2004	9.2%	8.4%	16.3%	15.5%	15.8%	10.9%
2005	6.2%	5.4%	7.4%	6.6%	11.4%	4.9%
2006	14.2%	13.3%	18.4%	17.5%	21.5%	15.8%
2007	3.8%	3.0%	3.1%	2.3%	12.2%	5.5%
2008	-20.3%	-21.5%	-21.6%	-22.7%	-41.9%	-37.0%
2009	22.0%	20.8%	27.9%	26.7%	35.4%	26.5%
2010	12.8%	11.6%	14.4%	13.2%	13.2%	15.1%
2011	6.9%	6.1%	7.1%	6.3%	-6.9%	2.1%
2012	6.5%	5.7%	6.8%	6.0%	16.8%	16.0%
2013	15.5%	14.6%	17.3%	16.4%	23.4%	32.4%
2014	4.6%	3.8%	5.2%	4.4%	4.7%	13.7%
2015	-8.7%	-9.4%	-10.3%	-11.0%	-1.8%	1.4%
2016	22.1%	21.2%	27.7%	26.8%	8.5%	12.0%
2017	13.5%	12.6%	18.0%	17.1%	24.6%	21.8%
2018	-1.3%	-2.1%	-1.4%	-2.1%	-8.9%	-4.4%
2019	20.4%	19.5%	23.6%	22.7%	27.3%	31.5%
2020	11.2%	10.4%	11.9%	11.1%	16.8%	18.4%
2021	24.9%	24.0%	27.3%	26.4%	19.0%	28.7%
2022	1.9%	1.0%	2.1%	1.2%	-18.0%	-18.1%
2023	11.7%	10.8%	12.1%	11.2%	22.8%	26.3%
2024	7.9%	7.0%	8.2%	7.3%	18.0%	25.0%

	Gross of Fees	Net of Fees	Gross of Fees Equities	Net of Fees Equities Only*	MSCI All Country World	S&P 500
Cumulative Since Inception**	988.5%	777.0%	1507.4%	1194.9%	464.1%	666.0%
Annualized Since Inception**	9.7%	8.8%	11.4%	10.4%	6.9%	8.2%

* This is supplemental information

** Inception Date 2/28/1999. # Firm Assets at 12/31/2024 is \$693 million, at 12/31/2023 was \$597 million, at 12/31/2022 was \$477 million, at 12/31/2021 was \$390 million and at 12/31/2020 was \$305 million.



COMPOSITE PERFORMANCE: COMPOUND ANNUAL GROWTH RATES (CAGR)
FROM INCEPTION AND LOOKING BACK TO INCEPTION

Year		Gross Portfolio	Gross Portfolio CAGR from 2024	Gross Portfolio CAGR from 1999	Portfolio Net	Portfolio Net CAGR from 2024	Portfolio Net CAGR from 1999	Equities Only Gross	Equities Only Gross CAGR from 2024	Equities Only Gross CAGR from 1999	Equities Only Net	Equities Only Net CAGR from 2024	Equities Only Net CAGR from 1999	MSCI AC World GTR	MSCI AC World GTR CAGR from 2024	MSCI AC World GTR CAGR from 1999	S&P 500 Composite Total Return	S&P 500 CAGR from 2024	S&P 500 CAGR from 1999
1999*	<i>26yr</i>	29.9%	<i>9.7%</i>	29.9%	28.8%	<i>8.8%</i>	28.8%	29.1%	<i>11.4%</i>	29.1%	28.1%	<i>10.4%</i>	28.1%	27.5%	<i>6.9%</i>	27.5%	19.9%	<i>8.2%</i>	19.9%
2000	<i>25yr</i>	26.7%	<i>8.9%</i>	31.2%	25.6%	<i>8.0%</i>	30.0%	30.7%	<i>10.6%</i>	33.1%	29.5%	<i>9.7%</i>	31.8%	-13.9%	<i>6.1%</i>	5.2%	-9.1%	<i>7.7%</i>	4.8%
2001	<i>24yr</i>	20.8%	<i>8.2%</i>	27.5%	19.7%	<i>7.3%</i>	26.3%	23.1%	<i>9.8%</i>	29.4%	22.0%	<i>8.9%</i>	28.2%	-15.9%	<i>7.1%</i>	-2.8%	-11.9%	<i>8.5%</i>	-1.4%
2002	<i>23yr</i>	-15.5%	<i>7.7%</i>	14.5%	-16.2%	<i>6.8%</i>	13.5%	-22.0%	<i>9.3%</i>	13.4%	-22.7%	<i>8.4%</i>	12.4%	-19.0%	<i>8.2%</i>	-7.3%	-22.1%	<i>9.4%</i>	-7.3%
2003	<i>22yr</i>	21.8%	<i>8.9%</i>	16.0%	20.8%	<i>8.0%</i>	14.9%	38.2%	<i>11.0%</i>	18.2%	37.1%	<i>10.1%</i>	17.1%	34.6%	<i>9.6%</i>	0.1%	28.7%	<i>11.2%</i>	-0.8%
2004	<i>21yr</i>	9.2%	<i>8.3%</i>	14.8%	8.4%	<i>7.4%</i>	13.8%	16.3%	<i>9.8%</i>	17.9%	15.5%	<i>8.9%</i>	16.8%	15.8%	<i>8.6%</i>	2.7%	10.9%	<i>10.4%</i>	1.1%
2005	<i>20yr</i>	6.2%	<i>8.2%</i>	13.5%	5.4%	<i>7.3%</i>	12.5%	7.4%	<i>9.5%</i>	16.3%	6.6%	<i>8.6%</i>	15.3%	11.4%	<i>8.2%</i>	3.9%	4.9%	<i>10.4%</i>	1.7%
2006	<i>19yr</i>	14.2%	<i>8.3%</i>	13.6%	13.3%	<i>7.4%</i>	12.6%	18.4%	<i>9.6%</i>	16.5%	17.5%	<i>8.7%</i>	15.5%	21.5%	<i>8.0%</i>	6.0%	15.8%	<i>10.6%</i>	3.4%
2007	<i>18yr</i>	3.8%	<i>8.0%</i>	12.4%	3.0%	<i>7.1%</i>	11.5%	3.1%	<i>9.2%</i>	14.9%	2.3%	<i>8.3%</i>	14.0%	12.2%	<i>7.3%</i>	6.7%	5.5%	<i>10.4%</i>	3.6%
2008	<i>17yr</i>	-20.3%	<i>8.3%</i>	8.6%	-21.5%	<i>7.4%</i>	7.6%	-21.6%	<i>9.5%</i>	10.5%	-22.7%	<i>8.6%</i>	9.6%	-41.8%	<i>7.1%</i>	0.3%	-37.0%	<i>10.7%</i>	-1.5%
2009	<i>16yr</i>	22.0%	<i>10.4%</i>	9.7%	20.8%	<i>9.5%</i>	8.8%	27.9%	<i>11.8%</i>	12.0%	26.7%	<i>11.0%</i>	11.0%	35.4%	<i>11.2%</i>	3.1%	26.5%	<i>14.6%</i>	0.8%
2010	<i>15yr</i>	12.8%	<i>9.6%</i>	10.0%	11.6%	<i>8.8%</i>	9.0%	14.4%	<i>10.9%</i>	12.2%	13.2%	<i>10.0%</i>	11.2%	13.2%	<i>9.8%</i>	3.9%	15.1%	<i>13.9%</i>	1.9%
2011	<i>14yr</i>	6.9%	<i>9.4%</i>	9.8%	6.1%	<i>8.6%</i>	8.8%	7.1%	<i>10.6%</i>	11.8%	6.3%	<i>9.8%</i>	10.8%	-6.9%	<i>9.5%</i>	3.0%	2.1%	<i>13.8%</i>	1.9%
2012	<i>13yr</i>	6.5%	<i>9.6%</i>	9.5%	5.7%	<i>8.8%</i>	8.5%	6.8%	<i>10.9%</i>	11.5%	6.0%	<i>10.0%</i>	10.5%	16.8%	<i>10.9%</i>	4.0%	16.0%	<i>14.7%</i>	2.9%
2013	<i>12yr</i>	15.5%	<i>9.9%</i>	9.9%	14.6%	<i>9.0%</i>	8.9%	17.3%	<i>11.2%</i>	11.8%	16.4%	<i>10.4%</i>	10.9%	23.4%	<i>10.4%</i>	5.2%	32.4%	<i>14.6%</i>	4.7%
2014	<i>11yr</i>	4.6%	<i>9.4%</i>	9.6%	3.8%	<i>8.5%</i>	8.6%	5.2%	<i>10.7%</i>	11.4%	4.4%	<i>9.8%</i>	10.4%	4.7%	<i>9.3%</i>	5.2%	13.7%	<i>13.2%</i>	5.2%
2015	<i>10yr</i>	-8.7%	<i>9.9%</i>	8.4%	-9.4%	<i>9.0%</i>	7.4%	-10.3%	<i>11.2%</i>	10.0%	-11.0%	<i>10.4%</i>	9.0%	-1.8%	<i>9.8%</i>	4.7%	1.4%	<i>13.1%</i>	5.0%
2016	<i>9yr</i>	22.1%	<i>12.2%</i>	9.1%	21.2%	<i>11.3%</i>	8.2%	27.7%	<i>13.9%</i>	10.9%	26.8%	<i>13.1%</i>	10.0%	8.5%	<i>11.2%</i>	4.9%	12.0%	<i>14.5%</i>	5.4%
2017	<i>8yr</i>	13.4%	<i>11.0%</i>	9.3%	12.6%	<i>10.1%</i>	8.4%	18.0%	<i>12.3%</i>	11.3%	17.1%	<i>11.5%</i>	10.3%	24.6%	<i>11.5%</i>	5.9%	21.8%	<i>14.8%</i>	6.2%
2018	<i>7yr</i>	-1.3%	<i>10.6%</i>	8.8%	-2.1%	<i>9.8%</i>	7.8%	-1.4%	<i>11.5%</i>	10.6%	-2.1%	<i>10.7%</i>	9.7%	-8.9%	<i>9.7%</i>	5.1%	-4.4%	<i>13.8%</i>	5.6%
2019	<i>6yr</i>	20.4%	<i>12.7%</i>	9.3%	19.5%	<i>11.9%</i>	8.4%	23.6%	<i>13.9%</i>	11.2%	22.7%	<i>13.0%</i>	10.3%	27.3%	<i>13.2%</i>	6.1%	31.5%	<i>17.2%</i>	6.7%
2020	<i>5yr</i>	11.2%	<i>11.3%</i>	9.4%	10.4%	<i>10.4%</i>	8.5%	11.9%	<i>12.0%</i>	11.2%	11.1%	<i>11.1%</i>	10.3%	16.8%	<i>10.6%</i>	6.5%	18.4%	<i>14.5%</i>	7.2%
2021	<i>4yr</i>	24.9%	<i>11.3%</i>	10.0%	24.0%	<i>10.4%</i>	9.1%	27.3%	<i>12.0%</i>	11.9%	26.4%	<i>11.1%</i>	11.0%	19.0%	<i>9.1%</i>	7.1%	28.7%	<i>13.6%</i>	8.1%
2022	<i>3yr</i>	1.9%	<i>7.1%</i>	9.7%	1.0%	<i>6.2%</i>	8.8%	2.1%	<i>7.4%</i>	11.5%	1.2%	<i>6.5%</i>	10.5%	-18.0%	<i>5.9%</i>	5.9%	-18.1%	<i>8.9%</i>	6.9%
2023	<i>2yr</i>	11.7%	<i>9.8%</i>	9.8%	10.8%	<i>8.9%</i>	8.8%	12.1%	<i>10.1%</i>	11.5%	11.2%	<i>9.2%</i>	10.6%	22.8%	<i>20.4%</i>	6.5%	26.3%	<i>25.7%</i>	7.6%
2024	<i>1yr</i>	7.9%	<i>7.9%</i>	9.7%	7.0%	<i>7.0%</i>	8.8%	8.2%	<i>8.2%</i>	11.4%	7.3%	<i>7.3%</i>	10.4%	18.0%	<i>18.0%</i>	6.9%	25.0%	<i>25.0%</i>	8.2%

* Inception Date 2/28/1999.

SEC-registered investment advisory firms are now required to disclose 1-, 5- and 10-year returns, or the time period since performance composite or portfolio inception, if shorter. The new rule seeks to prevent “advertisers” from cherry-picking time periods that make returns appear more favorable. As short- and intermediate-term returns change frequently due to beginning and endpoint sensitivity, we have chosen to disclose *all* yearly intervals from the current 1-year return all the way back to inception. Intra-year periods will likewise be shown annually back to inception. Better, in our opinion, to provide more data than less. We are augmenting the mandated disclosure with the full data set – not to confuse – but if we must provide a few defined numbers, to the extent anybody uses them in decision making, we want you to have the information we’d want if our roles were reversed. The yearly return intervals are *italicized and shaded in blue*.