Watchlist Investing Newsletter

Patiently finding and following great public companies to own at the right price.

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"One person said to me, 'I have a list of 300 potentially attractive stocks, and I constantly watch them, waiting for just one of them to become cheap enough to buy.' Well, that's a reasonable thing to do. But how many people have that kind of discipline? Not one in 100." – Charlie Munger

In this issue:

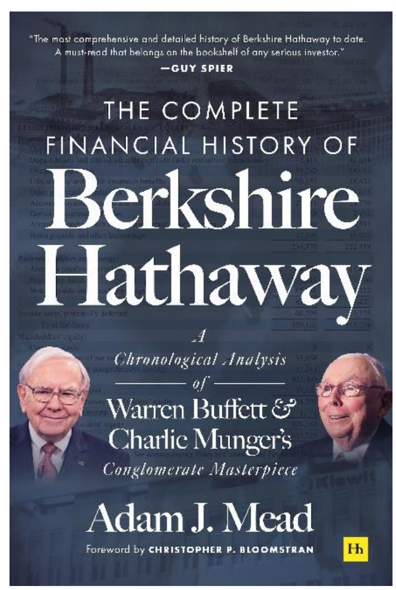
- ***Companies in this issue:*** Alleghany Corp. (Y); Berkshire Hathaway (BRK.A / BRK.B); Fairfax (FFX); Markel Corp. (MKL); Progressive Corp. (PGR); Union Pacific (UNP)

Deep Dive

Berkshire Hathaway

The Ultimate Conglomerate

Tickers: BRK.A / BRK.B | Disclosure: Long



This Deep Dive is probably overdue. I hesitated to make BRK the focus of an entire issue for two reasons. One is that most of my audience is almost certainly familiar with the company if not a close follower of it. The second reason is that while I feel among the most qualified to write about BRK having literally written the book on it (shameless plug), even a long Deep Dive is limiting for conglomerate with such an extensive history and breadth of operations. I eventually concluded that I owed it to subscribers to have a W.I.N. writeup on the BRK.

What follows is my attempt at a comprehensive-yet-concise Deep Dive of Berkshire Hathaway. I hope it brings newcomers up to speed on the conglomerate and provides existing shareholders with a useful update on recent business results. Let's begin.

Resources

If you are new to Berkshire and don't have a working understanding of the company, or would like a refresher, below are some resources I'd recommend:

- **Books**
  - **The Complete Financial History of Berkshire Hathaway:** Who wrote that again? My tome on Berkshire is as detailed as they come if you're looking for a book that relives the history of Berkshire year by year. Key business concepts and accounting terms are explained, often using Warren Buffett's own words.
  - **The Warren Buffett Way:** I've probably read this book a dozen times. It was the first one I read on Berkshire. Robert Hagstrom does a great job showing the reader how Buffett thinks about investing.
  - **BRK Letters to Shareholders:** Max Olson compiled all of Buffett's letters to shareholders in one book. You hear directly from Buffett as BRK is built, brick by brick.
  - **Snowball:** Alice Schroeder wrote the only authorized biography of Warren Buffett, which includes many details about his personal life as he went about building BRK.

- **Glossary of Terms:** Taking the time to define unique terms in this newsletter would take up too much space. Fortunately, I've already put together a glossary of terms at my website, The Oracles Classroom. Terms defined on that site appear like this: **Float [Definition]** with a link.

- **Free BRK Deep Dives:** My friend, Christopher Bloomstran, releases his annual client letters each year, which include a comprehensive analysis of Berkshire (he's been a shareholder since 2000). Chris was generous enough to write the foreword to my book.

A VERY BRIEF INTRODUCTION:

To the uninitiated BRK looks like a mutual fund or ETF. They see the headlines touting its latest stock market moves and think of it as a way to invest alongside Warren Buffett in his personal investment vehicle. These individuals miss BRK's rich history of *business* ownership, with stock market investments being just one outlet for capital allocation.

At the same time, I frequently see experienced investors and media commentators not quite grasp BRK's magic and how the pieces all fit together. These people miss the fact that each of the conglomerate's many pieces strengthens and reinforces the entire enterprise, sometimes in subtle-but-important ways. In short, the whole of BRK *is* worth more than its parts.

Berkshire Hathaway as it stands today is the culmination of over half a century of careful capital allocation by Warren Buffett, Charlie Munger, and others. It also includes scores of managers and families that built many of its businesses before they came under the umbrella of the conglomerate.

BRK's main economic engine is its diversified insurance operations, which provide the dual benefit of generating a profit *and* a huge amount of capital to invest elsewhere (more on this later). The other major segments of BRK include:

- Berkshire Hathaway Energy, its extensive utility business
- BNSF, one of the largest railroads in North America
- MSR Group, a collection of hundreds of diversified operating businesses
- Investments, a portfolio of partial ownership interests in publicly traded companies

We'll dig into each of these segments in turn shortly and examine how they all fit together.

INDUSTRY OVERVIEW:

It's at this point during our regular programming that I provide an industry overview. I could make it brief and just say "everything" considering how few industries BRK is *not* involved in. Kidding! It's necessary to spend some time on the history of the conglomerate structure itself, how BRK in many ways got lucky, and briefly discuss other modern-day conglomerates.

What is a conglomerate anyway?
A conglomerate is simply a business that owns other businesses, usually many and usually unrelated. The basic idea is to create a business structure where the whole is more valuable than the sum of its parts. Sometimes businesses in two unrelated industries are brought together as a means of mitigating a weakness. For example, a cyclical business highly sensitive to economic conditions might be paired with a more stable one to provide cash flows to shareholders or the first business during times of stress. Other times two businesses are put under the same corporate umbrella as sister companies and encouraged (or forced) to help each other via "natural" or "synergistic" supplier/customer arrangements.

Then there are what might be termed the financial conglomerates like BRK. These entities unite disparate businesses via ownership but largely leave operations intact. The strength of these conglomerates comes from prudent capital allocation and satisfying regulatory requirements via legal ownership structure. (As a quick glimpse into BRK, its BNSF railroad operates as a unique and separate entity. But legally it is owned by one of BRK's insurance companies, which provides capital strength to the insurer.)

Early conglomerates:

It's worth examining some of the earliest conglomerates to understand how others used (or misused) the conglomerate structure. Warren Buffett and Charlie Munger had a front row seat to many of these business stories and they undoubtedly made BRK better for it. Given time and space constraints I won't get into all the wonderful details. If you'd like more on each of these please refer to my Substack post.

American Home Products: Formed in 1926, AHP is the earliest conglomerate I'm aware of. It survived to the modern day as Wyeth before being sold to Pfizer.

Lesson: It's possible to own multiple companies in one holding structure.

Textron: Founded by Royal Little in the 1920s, Textron is considered the first of the true conglomerates. It used a provision in the tax code to acquire money-losing companies to shield profits elsewhere. Textron moved on to purchase better businesses, including what became Bell Helicopter, and it remains a public company to this day.

Lesson: There can be tax advantages to a conglomerate structure.

Litton Industries: Litton's Charles "Tex" Thornton introduced the issuance of shares as a new element to business acquisitions. He courted Wall Street to bolster Litton's share price then used its higher-priced shares to acquire lower-multiple companies that juiced its own earnings per share. Litton was eventually acquired by Northrup Grumman, another defense company, in 2001.

AMERICAN HOME PRODUCTS CORP.: Incorporated in Delaware Feb. 4, 1926 as a holding company for subsidiary companies engaged in manufacture and sale of medicines and preparations known as Hills Cascara Bromide Quinine, Jad Salts, Tiz, St. Jacob's Oil, Wyeth's Sage & Sulphur, Freezone, Petrolagar, etc. Subsidiaries own plants at East Detroit and Los Angeles and lease plants in Cincinnati and Chicago; aggregate floor space about 58,000 sq. ft. Employs about 250. Owns entire capital stock (except directors qualifying shares) of the following:

SUBSIDIARIES: Whitehall Pharmacal Co.; Mentho-Sulphur Co.; The Larned Co., (entire stock owned by Whitehall Pharmacal Co.); Wyeth Chemical Co.; Jads Salts Co.; The Cream Balm Co.; Limestone Phosphate Co.; Wyeth Chemical Co., Inc.; Whitehall Pharmacal Co., Inc.; The St. Jacobs Oil Co.; The St. Jacobs Oil Co., Inc.; The Walter Luther Dodge Co.; Deshell Laboratories, Inc.; Edward Wesley & Co.; W. D. Dodge, Ltd., (Eng.) and St. Jacobs Oil, Ltd. (Eng.).

MANAGEMENT: OFFICERS: W. H. Kirn, Pres.; S. P. Jadwin, Vice-Pres.; J. F. Murray, Sec. and Treas. DIRECTORS: W. H. Kirn, Detroit, Mich.; S. P. Jadwin, J. F. Murray, A. H. Diebold, A. R. Meyer, H. S. Marston, New York; L. B. Beckwith, Toledo, O. GENERAL AUDITORS: Ernst & Ernst. OFFICE: Wilmington, Del.

CONSOLIDATED INCOME ACCOUNT, YEARS ENDED DEC. 31

	1925	1924	1923
Net sales	$4,711,809	$4,193,509	$4,576,888
Cost of sales & exp.	3,542,466	3,292,985	3,516,986
Other deductions	143,957	98,518	62,459
Depreciation	20,379	13,102	7,761
Net income	$1,005,007	$788,904	$989,682
Margin of profit	*21.33%*	*18.81%*	*21.62%*
Other incomes	35,342	72,932	59,165
Total income	$1,040,349	$861,836	$1,048,847
Interest	60,720	18,744	13,009
Federal taxes	103,921	67,615	101,499
Balance	$875,708	$775,477	$934,339
*Net adjustments	(cr) 140,442	(cr) 67,134	(cr) 33,633
Adjusted bal.	$1,016,150	$842,611	$967,972
†Earned per share	$3.39	$2.81	$3.23

Figure 1: A Moody's Manual entry on American Home Products from 1926.

Lesson: Capital allocation can include the issuance of shares, but the practice can be abused.

Ling-Temco-Vought: Sometimes referred to as LTV, it pushed the limits of conglomerates even further. James Ling soon found out he could acquire companies using capital raised by issuing shares, borrowing heavily, and usually a combination of both. Accommodating public markets and the low interest rate environment of the 1960s allowed LTV to grow into a huge conglomerate by virtue of financial engineering. Ling also actively sought out large enterprises to buy and then dismantle. The house of cards came crashing down in the late 1960s when interest rates rose, LTV's stock price cratered, and the company faced an antitrust lawsuit. LTV stumbled along through periods of financial difficulty, including two bankruptcies, until it was itself carved up and sold off in 2002.

Lesson: Financial engineering isn't a substitute for real business value creation.

Gulf + Western: G&W was the creation of Charles Bluhdorn, who took a mediocre auto parts supply business and turned it into a darling conglomerate of the 1960s. The playbook was much the same as Litton and LTV. Bluhdorn used Gulf + Western's higher-priced shares, convertible preferred stock, and other debt to acquire companies and increase reported earnings per share.

The company took things a step further with creative accounting that masked the otherwise largely stagnant underlying businesses the company purchased. That included financial engineering with its purchase of Paramount Pictures in 1967 in which it sold off rights to movies and booked the total contract as income immediately. In 1983, Bluhdorn died of a heart attack at age 56. Many of Gulf + Western's businesses were sold off piecemeal. The company renamed itself Paramount Communications and was eventually sold to Viacom in 1994.

Lesson: Financial engineering and accounting schemes aren't sustainable over the long term.

International Telephone & Telegraph: ITT was a company engaged in the business its name suggested. The company was taken to conglomerate heights by Harold Geneen in the 1960s. ITT used some of the same tactics as other conglomerates of this era, such as making acquisitions using stock, but he didn't push it as far as Thornton, Ling, or Bluhdorn. Geneen took an established company and grew it to include finance businesses, car rentals, hotels, a homebuilder, a forest products company, and a bakery, among others. If not for antitrust concerns, ITT would have acquired American Broadcasting Company. ITT was broken up in two broad steps beginning in 1995 and again in 2011.

Lessons: Forcing so-called synergies is a mistake. Mingling in operations can be detrimental to the companies and the conglomerate.

Teledyne: This last conglomerate was the brainchild of Henry Singleton, along with George Kozmetsky and George Roberts. Teledyne's heyday was between the 1960s and 1990s. Singleton focused on the bigger strategic picture and gave subsidiaries autonomy to run their operations largely independently. Teledyne used some of the strategies employed by other conglomerates, such as the issuance of shares, which it did to great success. One of the defining characteristics of Teledyne was that it focused on buying better, cash-generating businesses. It then used the cash generated by those acquisitions to purchase the shares of other companies in the stock market. Finally, when Teledyne's own stock became cheap, Singleton repurchased 90% of the company's shares in the open market. Ultimately, Teledyne went too far in squeezing cash out of its subsidiaries, which hurt them competitively.

Lessons: Decentralized operations with centralized capital allocation is a powerful tool and comes with the added benefit of motivating managers with autonomy. Furthermore, it's highly scalable. Good capital allocation also includes repurchasing undervalued shares.

Conglomerates of today:

Berkshire in many ways was lucky. It had the benefit of learning from the conglomerateurs of the very early days but started at a time when markets were still inefficient. Some examples of smaller modern conglomerates include **Markel (MKL | Disclosure: None)**, **Fairfax (FFX | Disclosure: None)**, and **Alleghany (Y | Disclosure: None)**, which all have insurance as their base coupled with significant investments in marketable securities and non-insurance operations.

In March 2022, Berkshire announced it was acquiring Alleghany (see my note on the deal at the very end).

A WAY-TOO-SHORT HISTORY OF BERKSHIRE HATHAWAY

To appreciate today's BRK's results properly and fully it is important to understand its history. To do that in less than 766 pages (hmm, wonder where that number came from …) is a challenge. Here I will presume at least a baseline knowledge of BRK and its past, and point you to Chapter 8 of my book, which provides a slightly-less-condensed decade-by-decade summary of the conglomerate. As a refresher and super-condensed history of BRK, here are some major milestones. Note the dates correspond to 10-year periods beginning with Buffett's control in 1965.

- **Pre-Buffett BRK:** Prior to Warren Buffett's involvement Berkshire Hathaway existed as one of the last surviving textile manufacturers in Massachusetts. BRK itself was the result of a long series of mergers that left it standing but still struggling in a dying business. Warren Buffett saw an opportunity to invest in BRK as a net-net "cigar butt" investment, which he expected to flip in short order for a profit.

- **1965-1974:** After being snubbed by BRK's president, Seabury Stanton, in a tender offer, Buffett purchased additional shares and took control of the company in May 1965. BRK became his de facto investment vehicle after Buffett closed his investment partnership in 1969. Buffett begin diversifying out of textiles and into more profitable businesses, including a bank (representing 44% of equity capital at the time of acquisition), and National Indemnity (28%). The latter launched BRK on a path into insurance, a business that provided "rocket fuel" of **Insurance Float [Definition]** to invest in other areas. It was during this time in 1972 that BRK purchased its first quality business, See's Candies. Textiles shrunk to just 5% of total assets by the end of 1974.

- **1975-1984:** This decade saw insurance operations expand and mature. Written insurance premiums grew to $140 million through the formation of a host of insurance companies including **Reinsurance [Definition]** operations. BRK merged with Diversified Retailing and Blue Chip Stamps, two entities controlled by Buffett and tied to BRK in different ways. A number of iconic companies joined BRK in this decade including The Buffalo News, Nebraska Furniture Mart, and 36% of GEICO, which was purchased as a marketable security. Gains from the investment portfolio were responsible for an incredible 58% of the increase in BRK's net worth during this decade.

- **1985-1994:** Maturation of the insurance business wasn't without its growing pains. Insurance premiums grew to over $900 million during this decade. But they lost money in all but two years. The cumulative $288 million pre-tax underwriting loss was a painful lesson to focus on profitability first and foremost. BRK swallowed a mini-conclomerate in Scott Fetzer, an entity with 20 subsidiaries including Kirby and World Book. It also made a major investment in Coca-Cola and Capital Cities/ABC. Perhaps Buffett's worst acquisition mistake took place during this decade with the purchase of Dexter Shoe using 25,000 Class-A shares. The textile business was finally completely jettisoned in 1986.

- **1995-2004:** This period represented the supersizing of Berkshire. On the insurance front, GEICO joined as a wholly owned subsidiary and Berkshire acquired General Reinsurance in an all-stock deal. Gen Re was a Buffett masterstroke that saw BRK use overvalued BRK shares to effectively reduce its exposure to stocks tax-free and substantially increase average float. Chris Bloomstran has called this Berkshire's second great pivot (the first being the shift to higher quality companies). Earned insurance premiums grew to $21 billion and float to $45 billion.

  On the non-insurance side revenues topped $43 billion as Berkshire scooped up a slate of wonderful businesses discarded in the wake of the dot-com boom/bust. These included FlightSafety, Dairy Queen, Net Jets, Benjamin Moore, Justin Industries/Acme Brick, Shaw Carpet, Johns Manville, MiTek, Fruit of the Loom, and others. Berkshire also acquired a majority stake in MidAmerican Energy, which would become a platform for expansion in the regulated utility business. The decade ended with Berkshire holding $40 billion in cash, the first sign that its size was becoming something of a handicap.

- **2005-2014:** You know your conglomerate is huge when you can swallow an entire major North American railroad with no trouble. That's exactly what BRK did with its purchase of Burlington Northern Santa Fe. BNSF became one of what Buffett would deem the Powerhouse Five. In addition to BNSF, this five included Iscar (its first major overseas acquisition), Marmon (another conglomerate), Lubrizol, and MidAmerican, which was renamed Berkshire Hathaway Energy. Berkshire's cash hoard prepared it for the Great Recession and its aftermath. During a two-week span in 2008 BRK invested $14.5 billion while others were clamoring for capital at any cost. Insurance premiums ballooned to $41 billion by 2014 with float averaging over $80 billion.

- **2015-2021:** The story of the first seven years of this decade very well might represent BRK's third great pivot. A dearth of acquisition opportunities stemming from an ultra-low interest rate environment caused cash levels to swell. Fortunately, one capital allocation tool remained available: buybacks. Between 2018 and 2021 BRK repurchased $58 billion of its own stock (there were no buybacks between 2015 and 2017). The only major acquisition made during this time was Precision Castparts, which suffered operationally from the pandemic and in hindsight a rich purchase price. A major investment in Apple became a home run and continued Berkshire's history of making large, concentrated investments. Insurance premiums amounted to $69 billion and float was $147 billion. Non-insurance revenues topped $150 billion.

FINANCIAL ANALYSIS / VALUATION

Finally, the meat and potatoes. Valuing Berkshire is in some ways daunting and in others simple. Daunting because of the sheer scale of the enterprise. Yet simple because a lot of the value resides in a few major "chunks". Most BRK analysts use one or a combination of four approaches:

1. Sum of the parts
2. GAAP-adjusted financials
3. Two-column method
4. Price-to-book

I'll take each in turn.

Sum of the parts:

A sum of the parts analysis is probably the most reliable method for valuing Berkshire. Breaking the company into separate parts allows for focused attention on each source of value. I'll go step-by-step through the table below.

Berkshire Hathaway: Sum of the Parts

Market cap $ millions (April 4, 2022):	$775,000
A-Eq. Shares out (Feb. 14, 2022):	1,476,141

Asset	Input (YE '21)	Adjustment	Valuation	Market Cap %	Note
Cash	$143,854	100%	$143,854	19%	Insurance and other; excludes cash at rail and energy
Fixed maturity (bonds)	$16,434	100%	$16,434	2%	
Investments:	$350,719				13F Total = $336bn; only US-listed stocks; incl. KHC
Valuation adjustment	-$49,000				Adjust Apple to 20x earnings; leave remainder of portfolio valued as-is
Deferred tax liab.	-$41,370				21% x ($246bn unrealized gain - $49bn Apple adjustment)
Investments, net			$260,349	34%	(Look-thru earnings = ~$15.7bn --> ~16.5x earnings or 6% earnings yield)
Equity method investments	$4,300	100%	$4,300	1%	Pilot Flying J, ETT, Berkadia (KHC included in investments)
BNSF	$5,990	15x net earnings	$89,850	12%	Regulated, predictable, consistent low-double digit ROE
BRK Energy	$3,495	15x net earnings	$52,425	7%	Regulated return low double-digits; ability to reinvest; no adj. for BYD
Manuf., Service, Retailing	$11,120	15x net earnings	$166,800	22%	
Insurance underwriting	$1,950	15x UW profits	$29,250	4%	$65bn premiums @ 3% normalized underwriting gain
Holdco debt	-$21,409	100%	-$21,409	-3%	
Total			**$741,853**	**96%**	
		Book value equity	$506,000		
		Value / book	1.47		
		Per A-Share:	*$502,562*		
		Per B-Share:	*$335*		

Cash:

Okay, what's to talk about? Included in the table is cash from BRK's insurance and other category on its consolidated balance sheet. It excludes cash residing on the books of BNSF and BRK Energy. Why? Because those businesses, generally speaking, need their cash as a part of their business models. That leaves about $144 billion cash in the insurance operations and the various manufacturing, service, and retailing businesses.

In theory all of that cash could be sent to shareholders. In practice BRK has a stated amount of $30 billion that it says will be held as an absolute minimum in the insurance operation. This figure was recently increased from $20 billion and reflects growth in the insurance operation. As a proxy for BRK's preferred minimum level of cash we can look to paid insurance claims. In 2021 BRK paid about $42 billion to claimants for loss events. That $30 billion for practical purposes is probably $40 billion. Should we deduct this from the valuation on the grounds that it's part of running the insurance operation, no different than cash held at the rail or energy business? You wouldn't be wrong to make that adjustment although I've decided to keep it in.

Fixed maturity investments:

I'm not smart enough (or motivated enough) to make an adjustment to BRK's bond portfolio to reflect the fact that interest rates are on the rise. Market values it is! Bonds amount to just 2% of market cap so I won't lose sleep worrying I have this wrong.

Equity investments:

Now we really enter the realm of analyst assumptions. Feel free to make your own adjustments. These are mine: I start with the value of the portfolio as of year end 2021, which was $351 billion. Of note, the 13F report as of that date shows a value of $336 billion. The 13F includes Kraft Heinz, which is carried on Berkshire's books as an equity method investment because it owns 26.6% of KHC. Additionally, the 13F only includes US-based stocks and ADRs. It does not include, for example, Berkshire's investments in Japanese trading companies.

One can make this exercise as involved as you like. The first approach is to simply assume that quoted market values = true value. Most of the time that works fine as BRK has professional money managers (including Warren Buffett himself) in charge of looking for undervalued securities. A reasonable assumption is that a few fully valued holdings are probably offset by others that are undervalued. Yet at times the market can significantly overvalue or undervalue the portfolio. To get around this it's certainly acceptable to value each holding individually. Or you can make a broad market-based value judgement (perhaps using the Buffett indicator of GDP/total stock market value) as a guide, and apply an adjustment factor to the whole portfolio.

My approach is somewhere in the middle. I'll generally assume the portfolio is valued fairly unless an extreme case jumps out in one of the larger holdings. As it happens today appears as one of those times, with Apple, at half of the portfolio, trading at nearly 30x earnings. Without getting sidetracked into an entire valuation exercise on Apple, I've cut its P/E to 20x (which still feels rich) and adjusted the value of the portfolio accordingly. This adjustment shaves $49 billion off the portfolio. Looking at some of the other holdings it seems Bank of America, at 13% of the portfolio, is undervalued. On the other hand, Coca-Cola looks to be richly priced at current levels. This leads to the conclusion that the remainder of the portfolio aside from Apple can be assumed "correct". As a gut-check to this assumption the **Look Through Earnings [Definition]** of the portfolio amount to $15.7 billion. On the final adjusted value of $260 billion this provides an earnings yield of 6% or a portfolio P/E of 16.5x. This seems reasonable.

The last adjustment is to deduct an amount for income taxes on unrealized gains. I've used a 21% rate here. You can adjust this upward to account for the possibility of higher tax rates in the future. Or you could adjust it down to reflect the fact that BRK won't pay this tax for decades if at all, which means a time value of money adjustment factor could be appropriate.

Equity method investments:

Ownership of between 20% and 50% require equity method accounting where the investee (BRK) must report a single line for its share of earnings and equity on its income statement and balance sheet, respectively. The major investment in this category is Kraft Heinz, however, since market data is readily available it was included in the section above with BRK's other marketable security investments.

Other equity method investments include:

- *Pilot Flying J:* BRK purchased an initial 38.6% interest in the truck stop operator in 2018. In 2023, BRK will bring its ownership to 80%, at which time PFJ's financials will be fully consolidated with BRK's. Of note, PFJ's revenues in 2021 were $45 billion. This should require that BRK break out its financials separately like it does with McLane (a wholesale distributor).

- *Electric Transmission Texas:* Berkshire made this 50/50 joint venture with American Electric Power company in 2008. It is a transmission-only electric utility in Texas.

- *Berkadia:* This 50/50 joint venture with Leucadia (now Jeffries) is a commercial real estate loan servicer.

- *Iroquois:* New in 2021, this investment came as a result of BRK's investment in Dominion Energy. Iroquois Gas Transmission System, L.P., operates a natural gas pipeline in New York and Connecticut.

These four investments reside on BRK's books for $4.3 billion as of 2021. Equity method earnings (i.e., BRK's share of their net earnings) amounted to $726 million in 2021. That implies a valuation of 6x earnings. While this multiple may seem too low remember that market values disappear when talking about the equity method. An example of this is Kraft Heinz. BRK carried KHC on its books for $15 billion in 2016 compared to a market value of $28 billion. Today it is carried at about $13 billion yet its market value was $11.7 billion at year end 2021.

Burlington Northern Santa Fe:

BNSF became a wholly owned subsidiary of BRK in 2010. Railroads were long a poor area of investment. A combination of high capital intensity, unions, and regulation created an environment of poor returns on capital. That began to change as the industry consolidated and partially deregulated. Investments in productivity such as double-stacking container cars (requiring heavy investments in bridges and tunnels), made rails four times more efficient than trucks and caught the attention of Warren Buffett and Charlie Munger. When BRK purchased BNSF it was earning pre-tax returns on capital of around 20%.

BNSF is one of a handful of Class I railroads in North America. It competes in the Western US and its primary competitor is **Union Pacific (UNP | Disclosure: None)**. Today BNSF has 32,500 route miles of track (23,000 owned, the remainder leased) in 28 states and three Canadian provinces. As a common carrier, BNSF must accept all freight. It groups its freight into four categories: consumer products, industrial products, agricultural products, and coal. In 2021 BNSF moved over 10,000 cars/units (its measurement of volume).

The following financial snapshot comes directly from the 2021 BRK annual. The three key figures to pay attention to are carloadings, operating earnings (EBIT), and after-tax earnings. Revenues are volatile because of pass-through fuel prices, and net income, while useful, is affected by tax rates.

	2021	2020	2019	Percentage change 2021 vs 2020	Percentage change 2020 vs 2019
Railroad operating revenues	$ 22,513	$ 20,181	$ 22,745	11.6%	(11.3)%
Railroad operating expenses:					
Compensation and benefits	4,696	4,542	5,270	3.4	(13.8)
Fuel	2,766	1,789	2,944	54.6	(39.2)
Purchased services	2,033	1,954	2,049	4.0	(4.6)
Depreciation and amortization	2,444	2,460	2,389	(0.7)	3.0
Equipment rents, materials and other	1,763	1,684	2,028	4.7	(17.0)
Total	13,702	12,429	14,680	10.2	(15.3)
Railroad operating earnings	8,811	7,752	8,065	13.7	(3.9)
Other revenues (expenses):					
Other revenues	769	688	770	11.8	(10.6)
Other expenses, net	(687)	(611)	(515)	12.4	18.6
Interest expense	(1,032)	(1,037)	(1,070)	(0.5)	(3.1)
Pre-tax earnings	7,861	6,792	7,250	15.7	(6.3)
Income taxes	1,871	1,631	1,769	14.7	(7.8)
Net earnings	$ 5,990	$ 5,161	$ 5,481	16.1	(5.8)
Effective income tax rate	23.8%	24.0%	24.4%		

The following table summarizes BNSF's railroad freight volumes by business group (cars/units in thousands).

	Cars/Units 2021	Cars/Units 2020	Cars/Units 2019	Percentage change 2021 vs 2020	Percentage change 2020 vs 2019
Consumer products	5,673	5,266	5,342	7.7%	(1.4)%
Industrial products	1,709	1,622	1,931	5.4	(16.0)
Agricultural products	1,224	1,189	1,146	2.9	3.8
Coal	1,529	1,404	1,802	8.9	(22.1)
Total cars/units	10,135	9,481	10,221	6.9	(7.2)

BRK paid $44.5 billion for BNSF which consisted of $34.2 billion equity and $10.4 billion of assumed debt. (The actual price was slightly lower because BRK owned shares prior to taking the company private. An accounting oddity; see my book.)

The rail earned $4.7 billion in 2010, the first full year of ownership. Eleven years later, through 2021, BRK's rail has shipped $45.6 billion in dividends to Omaha.[1] Debt has only increased to $23.2 billion over that time, meaning BRK hasn't treated its rail like a private-equity shop and levered up the balance sheet. After-tax earnings of $6 billion in 2021 would pay off *all* BNSF's long-term debt in just 3.7 years.

BNSF to BRK Dividend History

$ millions	Dividend	Cumulative
2010	$ 1,250	$ 1,250
2011	3,500	4,750
2012	3,750	8,500
2013	4,000	12,500
2014	3,500	16,000
2015	4,000	20,000
2016	2,500	22,500
2017	4,575	27,075
2018	5,450	32,525
2019	4,425	36,950
2020	4,830	41,780
2021	3,800	45,580

[1] While a lot of data is taken from the BRK annual report / 10K, BSNF also files with the SEC because of its public debt. Lots of goodies are in that report, such as the amount paid as dividends. See here.

BNSF ROIC Analysis		
$ millions	2021	2020
Equity capital	46,449	44,004
Long-term debt	23,219	23,220
Goodwill	(14,852)	(14,851)
Tangible invested capital	54,816	52,373
Average tangible invested capital	53,595	
EBIT	8,798	
After-tax earnings	5,990	
Pre-tax ROIC	16.4%	
After-tax ROIC	11.2%	
Cash-adjusted AT ROIC	12.1%	
After-tax ROE	12.9%	
Cash adjusted AT ROE	13.9%	

As a quasi-government-regulated monopoly, BNSF is limited in how much it can earn by the Surface Transportation Board. It earns a fair return for putting up the capital necessary to move America's goods. Nonetheless, it's been a home run for Berkshire. The first decade under its ownership witnessed a continued investment in physical infrastructure with depreciation regularly outpacing capital expenditures, sometimes by 2x. This allowed significant investment of capital at known returns.

Although that pace has slowed in recent years BNSF can still take a good amount of capital. This has implications for returns on capital because of the tax code. Accelerated deprecation for tax purposes means BSNF earns about a percentage point higher than its net income would suggest. In 2021 the rail earned almost 14% on equity capital (goodwill included). That's nothing to scoff at.

What is such an economic entity worth? We can look at UNP, which is about the same size as BNSF. As of April 5, 2022, UNP had a market cap of $160 billion. Is BNSF worth that much? Probably not, and we should do our own analysis. I think an entity like BSNF, with known returns on capital, decent reinvestment prospects, and a solid duopoly position in a growing Western United States, is worth 15x earnings or about $90 billion. That provides a going-in return of 6.6% with modest work for growth to make up the rest. For conservatism I've excluded the benefit of lower cash taxes (about $500 million annually at present rates of earnings/investment).

Berkshire Hathaway Energy:

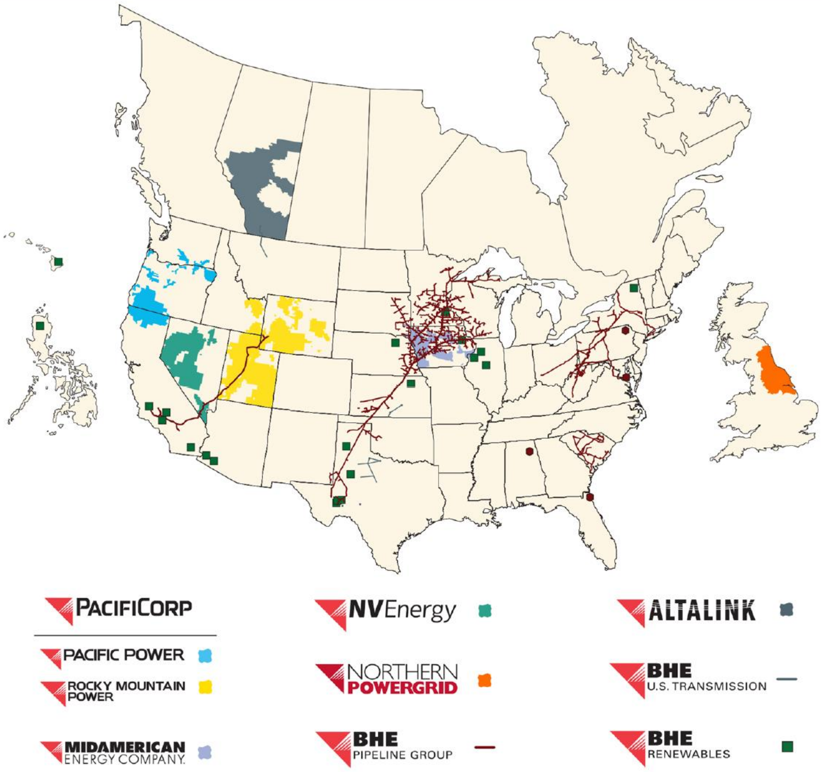
If BHE had a motto it might read: “Milk Me Later”. Most utilities are boring cash cows that distribute most of their earnings every year. BHE is anything but boring and hasn't paid a dividend since BRK purchased a majority economic interest in MidAmerican Energy (later renamed BRK Energy) in 2000. In 1999, MidAmerican had total shareholders equity of $1 billion and revenues of $4.4 billion. Fast forward to 2021, and equity has grown to $47 billion and energy revenues were $19 billion. That growth has come from a combination of retained earnings and additional capital contributions along the way. BHE has spent the past two decades building a world-class base of utility assets whose *ability* to distribute earnings continues to grow impressively. We are nowhere near the point where BHE will have to slow down.

BHE has grown from a base in the Midwest to become one of the largest, most respected, and most efficient operators in the United States. Here is an overview of the major segments of the company as it exists today.

- MidAmerican Energy Company: Regulated electric and gas utility
- PacifiCorp: Regulated electric utility
- BHE US Transmission: Regulated electric transmission
- NVEnergy: Holding company for:
    - Nevada Power Company: Regulated electric utility
    - Sierra Pacific Power Company: Regulated electric and gas utility
- Northern Powergrid: Holding co. for two United Kingdom-based electric distributors
- Altalink: Alberta, Canada-based regulated transmission
- BHE Pipeline Group:
    - Kern River: Regulated natural gas transmission
    - Northern Natural Gas: Regulated natural gas transmission
    - BHE GT&S: Various natural gas assets acquired from Dominion Energy

The following slide from the 2021 BHE Investor Presentation provides a great overview (I'd recommend combing through the entire report if you have time, it's impressive.)

Energy Assets



As of and for the LTM ended 9/30/2021

Assets	$132 billion
Revenues	$24.7 billion
Customers(1)	9.1 million
Employees	23,700
Transmission Line Miles	36,000
Natural Gas Pipeline Miles	21,300
Power Capacity	34,272 MWs(2)
Renewables	43%
Natural Gas	32%
Coal	24%
Nuclear and Other	1%

(1) Includes both electric and natural gas customers and end-users worldwide. Additionally, AltaLink serves approximately 85% of the population in Alberta, Canada

(2) Net MWs owned in operation and under construction as of September 30, 2021

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A few important points about BHE:

- Monopoly protection = limited return: From an economic perspective BHE enjoys the protection of a regulated monopoly. However, its returns on capital are set by each jurisdiction in which it operates. Nonetheless, BHE earns a low double-digit ROE averaged across its many businesses.

- Deserved success: BHE has an impressive track record of operating its assets incredibly efficiently. Its electric rates are double-digits lower than the US national average, including 27% lower for Rocky Mountain Power customers, 32% lower for Sierra Pacific customers, and 33% lower for MidAmerican Energy customers.

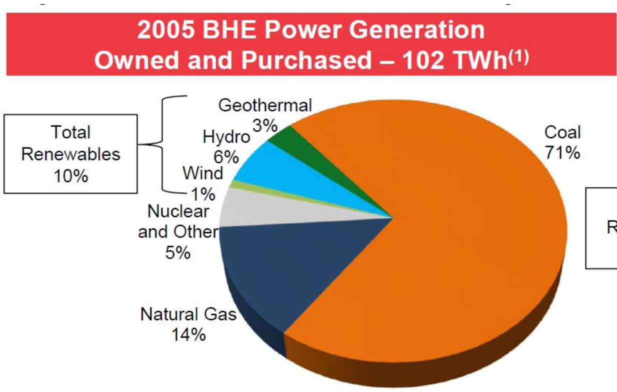
- Limited commodity exposure: Through its two natural gas pipelines BHE transports 15% of *all* natural gas in the US. It's a boring toll bridge business that has the advantage of no direct exposure to commodities prices. In 2021, BHE acquired certain assets of Dominion Energy in the eastern US, including Cove Point LNG (25% ownership), a liquified natural gas export terminal.

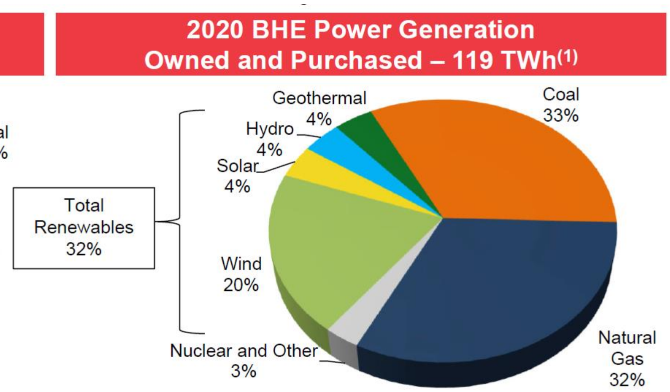
- Ownership: Berkshire Hathaway first purchased a 76% ownership interest in BHE in 2000. Additional investments have increased that to 91.1% as of 2021. The two minority owners are the estate of Walter Scott and Greg Abel (approximately 1% ownership).

- Use of tax credits: Your eyes may deceive you at first glance of BHE's financial statements. Pre-tax income is lower than after tax income because of the significant tax credits received because of its renewable energy investments. BHE is able to take full advantage of these only because it is consolidated for tax purposes with a major taxpayer in its parent company, BRK.

  Through 2021 BHE has invested over $35 billion in renewable energy projects, transforming its owned portfolio to 44% non-carbon and 32% of its total generation portfolio (owned plus purchased). BHE plans to phase out of most non-renewable generation by 2050 and is on track to achieve a 50% reduction in in CO_2 by 2030.

- A few oddities: BHE is home to two oddities. One is the fact that it is the largest residential real estate brokerage in the United States. Berkshire Hathaway Home Services came with the original acquisition of MidAmerican in 2000 (it was then simply called Home Services). Brokerage revenues in 2021 were $6.2 billion which netted $387 million. The other oddity is an investment in electric car company BYD worth $7.7 billion at year end. BYD was a rare Charlie Munger initiated investment that cost $232 million.





	2021	2020	2019
Revenues:			
Energy operating revenue	$ 18,935	$ 15,556	$ 15,371
Real estate operating revenue	6,215	5,396	4,473
Other income (loss)	(163)	79	270
Total revenue	24,987	21,031	20,114
Costs and expense:			
Energy cost of sales	5,504	4,187	4,586
Energy operating expense	8,535	7,539	6,824
Real estate operating costs and expense	5,710	4,885	4,251
Interest expense	2,054	1,941	1,835
Total costs and expense	21,803	18,552	17,496
Pre-tax earnings	3,184	2,479	2,618
Income tax expense (benefit)*	(1,177)	(1,010)	(526)
Net earnings after income taxes	4,361	3,489	3,144
Noncontrolling interests of BHE subsidiaries	399	71	18
Net earnings attributable to BHE	3,962	3,418	3,126
Noncontrolling interests and preferred stock dividends	467	327	286
Net earnings attributable to Berkshire Hathaway shareholders	$ 3,495	$ 3,091	$ 2,840
Effective income tax rate	(37.0)%	(40.7)%	(20.1)%

* *Includes significant production tax credits from wind-powered electricity generation.*

The discussion of BHE's operating results that follows is based on after-tax earnings, reflecting how the energy businesses are managed and evaluated. A summary of net earnings attributable to BHE follows (dollars in millions).

				Percentage change	
	2021	2020	2019	2021 vs 2020	2020 vs 2019
PacifiCorp	$ 889	$ 741	$ 773	20.0%	(4.1)%
MidAmerican Energy Company	883	818	781	7.9	4.7
NV Energy	439	410	365	7.1	12.3
Northern Powergrid	247	201	256	22.9	(21.5)
Natural gas pipelines	774	528	422	46.6	25.1
Other energy businesses	680	697	608	(2.4)	14.6
Real estate brokerage	387	375	160	3.2	134.4
Corporate interest and other	(337)	(352)	(239)	(4.3)	47.3
	$ 3,962	$ 3,418	$ 3,126	15.9	9.3

I think it's straightforward and fair to put a 15x multiple on BHE's $3.5 billion of after-tax earnings attributable to BRK, or a valuation of $52.5 billion.

Manufacturing, Service, and Retailing Businesses:

It is almost unbelievable how many individual businesses reside within the MSR segment. The MSR Group contains old favorites like See's Candies (acquired in 1972) to iconic Nebraska Furniture Mart (1983), and other well-known companies like Benjamin Moore, Dairy Queen, and Fruit of the Loom, plus a slew of companies in the B2B space that are boring-but-beautiful. To be fair there are some laggards, but Berkshire has largely avoided major mistakes in acquiring subsidiaries.

Below is the list of MSR businesses from the 2021 BRK annual. The "real" count is not 45 but probably over 150. That's because a few have subsidiaries of their own. The two largest "mini conglomerates" here include Scott Fetzer with about two dozen separate units and Marmon with over 100 itself. (Note the figures to the right are employee counts.)

MANUFACTURING:

Acme	1,794
Benjamin Moore	2,042
Brooks Sports	1,117
Clayton Homes	20,830
CTB	2,685
Duracell	2,975
Fechheimer	426
Forest River	13,457
Fruit of the Loom	32,591
Garan	3,899
H. H. Brown Shoe Group	1,163
IMC International Metalworking Companies	13,016
Johns Manville	7,748
Larson-Juhl	867
LiquidPower Specialty Products, Inc.	433
Lubrizol	8,368
Marmon[1]	22,835
MiTek Inc.	5,510
Precision Castparts	19,804
Richline Group	2,386
Scott Fetzer Companies	1,823
Shaw Industries	21,482
	187,251

SERVICE AND RETAILING:

Affordable Housing Partners, Inc.	27
Ben Bridge Jeweler	696
Berkshire Hathaway Automotive	9,530
Borsheims	136
Business Wire	415
Charter Brokerage	172
CORT	1,966
Dairy Queen	493
Detlev Louis	1,403
FlightSafety	4,005
Helzberg Diamonds	1,657
Jordan's Furniture	1,040
McLane Company	26,204
Nebraska Furniture Mart	4,407
NetJets	6,616
Oriental Trading	1,278
Pampered Chef	348
R.C. Willey Home Furnishings	2,591
See's Candies	2,546
Star Furniture	426
TTI, Inc.	8,043
WPLG, Inc.	210
XTRA	375
	74,584

Fortunately for us BRK has organized the MSR companies into segments and provided a fair amount of detail on each. I'm using the word fair in a slightly negative sense here. By now you should have realized the sheer size of BRK. The annual report has been consistent at around 140 pages even as the conglomerate swelled in size. Needless to say detail is lost as it grows. Buffett used to provide more information on the composition of the MSR balance sheet but even that is gone. (Chris Bloomstran has done yeoman's work to reconstruct it but I wish BRK would just provide it.) So, we're largely without great balance sheet data but I'll fill in the missing pieces where I can.

Below is the overall MSR table from the 2021 BRK annual. Note that it does make certain adjustments for economic reality, such as acquisition accounting and impairments.

	2021	2020	2019	Percentage change 2021 vs 2020	Percentage change 2020 vs 2019
Revenues					
Manufacturing	$ 68,730	$ 59,079	$ 62,730	16.3%	(5.8)%
Service and retailing	84,282	75,018	79,945	12.3	(6.2)
	$ 153,012	$ 134,097	$ 142,675	14.1	(6.0)
Pre-tax earnings					
Manufacturing	$ 9,841	$ 8,010	$ 9,522	22.9%	(15.9)%
Service and retailing	4,711	2,879	2,843	63.6	1.3
	14,552	10,889	12,365	33.6	(11.9)
Income taxes and noncontrolling interests	3,432	2,589	2,993		
Net earnings*	$ 11,120	$ 8,300	$ 9,372		
Effective income tax rate	23.0%	23.3%	23.7%		
Pre-tax earnings as a percentage of revenues	9.5%	8.1%	8.7%		

What follows is detail and some of my commentary on the Manufacturing segment specifically.

	2021	2020	2019	Percentage change 2021 vs 2020	Percentage change 2020 vs 2019
Revenues					
Industrial products	$ 28,176	$ 25,667	$ 30,594	9.8%	(16.1)%
Building products	24,974	21,244	20,327	17.6	4.5
Consumer products	15,580	12,168	11,809	28.0	3.0
	$ 68,730	$ 59,079	$ 62,730		
Pretax earnings					
Industrial products	$ 4,469	$ 3,755	$ 5,635	19.0%	(33.4)%
Building products	3,390	2,858	2,636	18.6	8.4
Consumer products	1,982	1,397	1,251	41.9	11.7
	$ 9,841	$ 8,010	$ 9,522		
Pre-tax earnings as a percentage of revenues					
Industrial products	15.9%	14.6%	18.4%		
Building products	13.6%	13.5%	13.0%		
Consumer products	12.7%	11.5%	10.6%		

We see a rational breakdown of the manufacturing businesses into three buckets. The industial segment is headed by Precision Castparts, an aerospace manufacturer BRK overpaid for in 2016. A pandemic-related slowdown (okay nosedive from 30,000 feet is more like it) caused a rare write-off of $10 billion of goodwill associated with PCC in 2020. Revenues were $6.5 billion in 2021 and pre-tax earnings came in at $1.2 billion. BRK paid $37 billion including debt for PCC. PCC earned about $2.5 billion pre-tax in 2015, the year before BRK acquired it.

Lubrizol, an oil additives business BRK acquired in 2011 for $10 billion including debt has had its share of challenges too. Revenues of $6.5 billion in 2021 produced pre-tax earnings of __?___. Ahh the frustration. BRK tells us pre-tax earnings were down 51% largely because of a fire in one of their subsidiaries, but no dollar figure. We move on…

Marmon, the 100+ business industrial conglomerate[2] BRK acquired in stages between 2008 and 2013 for $9 billion total generated revenues of $9.8 billion. Pre-tax earnings rebounded strongly, up 40% from 2020. Same story on the dollar figures, however. Nothin but blanks.

The last large business in the industrial category is IMC. Originally named Iscar, BRK made its first major overseas acquisition in two parts beginning in 2006. The total price tag was just over $6 billion. With IMC we only know that revenues increased 20% and pre-tax earnings increased 48% compared to 2020. It's incredible to think that a massive business like IMC only gets four lines to describe its performance. It would be awesome to have more detail but in reality we don't *really* need it to understand BRK's value.

I won't go into as much detail in every segment. The companies are close enough economic cousins that it's simply not necessary. Building products, which includes companies like Clayton Homes, Shaw, Johns Manville, Acme Building Brands, Benjamin Moore, and MiTek, are benefitting from the ongoing housing boom. Commodity prices have challenged these businesses, but they all have demonstrated pricing power.

Clayton is worth highlighting for several reasons, not least of which is its size and recent profitability. It started as a manufactured home builder and has become a powerhouse in site-built homes too over the past few years. BRK bought Clayton in 2003 for $1.7 billion which just coincidentally happens to equal its pre-tax earnings in 2021 on revenues of $10.5 billion. Not only does Clayton build homes it finances them too, an operation that started as a necessity during its early years (manufactured homes can be difficult to finance). As of yearend 2021, it managed an $18.8 billion loan portfolio of loans with very good credit quality. It funds its portfolio by borrowing from BRK at a spread.[3] In this way BRK truly has created a synergy as Clayton gets better financing and BRK can put its credit to work without distorting the economics for its subsidiary. (Buffett has called this an "every tub on its own bottom philosophy".)

Consumer products businesses include Forest River, an RV manufacturer acquired in 2005 that's been hitting it out of the park, numerous apparel companies like Fruit of the Loom and the footwear such as H.H. Brown and Brooks, battery company Duracell, and a jewelry manufacturer. These businesses rebounded strongly from the pandemic with revenues and pre-tax earnings up 28% and 42%, respectively.

[2] Marmon's business is delineated into 11 groups which is further consolidated into 3 segments. They span everything from electrical components, plumbing, HVAC, railcar leasing, and many, many more businesses serving construction, automotive, heavy duty trucks, and restaurant markets, to steal a line from the BRK annual.
[3] Most of the debt raised by Berkshire Hathaway Finance Corporation (BHFC) is used to fund Clayton's portfolio of mortgages and consumer finance receivables at certain subsidiaries.

	2021	2020	2019	Percentage change 2021 vs 2020	2020 vs 2019
Revenues					
Service	$ 15,872	$ 12,346	$ 13,496	28.6%	(8.5)%
Retailing	18,960	15,832	15,991	19.8	(1.0)
McLane	49,450	46,840	50,458	5.6	(7.2)
	$ 84,282	$ 75,018	$ 79,945		
Pre-tax earnings					
Service	$ 2,672	$ 1,600	$ 1,681	67.0%	(4.8)%
Retailing	1,809	1,028	874	76.0	17.6
McLane	230	251	288	(8.4)	(12.8)
	$ 4,711	$ 2,879	$ 2,843		
Pre-tax earnings as a percentage of revenues					
Service	16.8%	13.0%	12.5%		
Retailing	9.5%	6.5%	5.5%		
McLane	0.5%	0.5%	0.6%		

Service businesses consist of NetJets (fractional jet ownership), FlightSafety (pilot simulator training), TTI (electrical components distributor), Dairy Queen, XTRA (trailer leasing), CORT (furniture leasing), Charter Brokerage (a 3rd party chemical logistics business), Business Wire, and a Miami TV station. The flight-related businesses and TTI led the strong 29% increase in revenues and 67% increase in pre-tax earnings of this group.

Retailing includes Berkshire Hathaway Automotive, which is the renamed Van Tuyl Group BRK acquired for $4.2 billion in 2015.[4] BHA and its 80 dealerships were responsible for 62% of retailing revenues of $19 billion. Other retailing businesses span the economy: four furnishing stores, including Nebraska Furniture Mart, R.C. Willey, Star Furniture, and Jordan's Furniture; See's Candies; Pampered Chef; Oriental Trading; three jewelry stores including Borsheims, Helzberg, and Ben Bridge; and Louis, a motorcycle accessory business based in Germany.

McLane gets its own reporting line because of its huge revenue base of nearly $50 billion. Another coincidence: McLane earned the same $230 million in 2021 that it did in 2003 when BRK first acquired the distributor from Walmart. Competition has eroded its margins from 1% when BRK first bought it to under 0.50% today. McLane's huge turnover means it was a pretty good business and probably remains a decent one today. Sitting between strong suppliers and buyers is a tough business.

[4] Note the purchase price was distorted by large amounts of cash/investments on the books at the time of closing.

BRK Manufacturing, Service, and Retailing			
Identifiable assets at year-end	$142,293	$137,262	$137,803
Intangible assets (ins. & other)	28,486	29,462	31,051
Tangible assets	113,807	107,800	106,752
Revenues	153,012	134,097	142,675
EBIT	14,552	10,889	12,365
Net earnings	11,120	8,300	9,372
Pre-tax return on tang. assets	13.1%	10.2%	
After-tax return on tang. assets	10.0%	7.7%	

Where to begin valuing this monstrous group of businesses? A somewhat crude but straightforward estimate of tangible capital of the MSR businesses indicates the group is earning around 10% on tangible capital. To reiterate, we don't have great data on how much surplus cash the businesses have on their books, and we don't know how much debt they're using either. But it's a fair approximation.

Following our methodology from the rail and energy businesses, a 15x multiple appears reasonable. Earnings in 2021 are greater than the prior two years but nothing jumps out at me as being unreasonably high, and we know PCP and a few other businesses are struggling in that group. Using 15x on $11.1 billion of net earnings puts the value of the MSR businesses at about $167 billion.

Insurance:

BRK is home to some of the largest and strongest insurers in the world. Starting with the acquisition of National Indemnity Company in 1967, insurance has been the rocket fuel that's allowed supersize growth in all areas of BRK. Insurance – any insurance – is a promise. One party hands over cash today for the promise that the other party will assume agreed-upon risks that materialize tomorrow. The economics of insurance (cash today, promise tomorrow) create **Float [Definition]** and mean it's a tempting business for many, including the incompetent or crooked. The two big risks in insurance are improper reserving (failing to correctly estimate future costs) and poor investment decisions. Unsurprisingly the industry is heavily regulated to protect consumers.

The key to BRK's success over time stems from its relentless focus on underwriting profitability above all else. It takes great pains not to incentivize volume and is willing to bear long periods of volume declines (and it has, including one period of 13 straight years of declines). It's easy to improperly price insurance and not find out until years later, after employees have been compensated and the rent paid, that you've underestimated future costs. It's a dangerous game.

Insurance can be grouped into two broad buckets. Short-tail lines are policies such as home or auto where losses are known quickly. Underwriting mistakes surface quickly, and adjustments can be made accordingly. Long-tail lines, by contrast, and as the name suggests, take a long time to pay out. Risks might surface decades in the future. The advantage of writing long-tail business is, if done correctly, the use of float for a long period of time. Berkshire plays in both sandboxes.

BRK's insurance operations are grouped into three buckets:

- GEICO: The 2nd largest auto insurer in the US with a market share of about 13.5%
- Berkshire Hathaway Primary Group: A collection of primary insurers (the companies assuming risks directly from a customer)
- Berkshire Hathaway Reinsurance Group: A collection of reinsurers (companies that assume risks from other insurance companies)

GEICO:

GEICO first came on Warren Buffett's radar screen in the 1950s when he heard that his mentor, Benjamin Graham, was chairman of its board. He soon invested $10,000 of his own money in the company and sold for a quick 2x return. It wasn't until the mid-1970s when GEICO ran into trouble that GEICO reappeared, this time as an investment for BRK. BRK owned shares in GEICO for two decades and finally bought the remaining half of it in 1996. GEICO's basic advantage is selling direct to consumers without the agency model employed by others like industry giant State Farm. Today GEICO and **Progressive Corp. (PGR | Disclosure: None)** are neck and neck with each other to dethrone an ever-shrinking State Farm.

In 2021, GEICO earned premiums of $38 billion and wrote to a combined ratio of 96.7%, meaning it retained a profit of 3.3% after paying all expenses. Its underwriting profit of $1.3 billion is pure gravy above and beyond the amount of money it held and could invest for its own benefit throughout the year. Although BRK hasn't provided the amount of float attributable to GEICO since 2016, we can estimate it at 1.0x annual losses and loss adjustment expenses, or about $31 billion at yearend 2021. This means BRK earned $1.3 billion of underwriting profits *and* whatever it could make on $31 billion of capital.

Berkshire Hathaway Primary Group:

BHPG is a collection of primary insurers writing business in just about every realm of the commercial insurance world. Professional liability coverages, automobile (including specialized risks), property/casualty coverages, workers' compensation insurance, and directors & officers, among other lines. Some of the names in this group include Berkshire Hathaway Specialty, an outfit started from scratch in 2013 and grown into a sizable operation; Berkshire Hathaway

Homestate Companies, a collection of state-specific insurers started in the 1970s and 1980s under Buffett's direction; MedPro Group, GUARD, National Indemnity, and US Liability Insurance Company. This collection earned $607 million on $11.6 billion of premium volumes in 2021. BHPG is overshadowed by GEICO and the reinsurance operations because of their size, but the group has consistently underwritten to a 5% to 10% margin and grown premiums nicely over the years.

Berkshire Hathaway Reinsurance Group:

BHRG operates in the sometimes-mysterious world of **Reinsurance [Definition]**. Its products consist of promises like other insurers just more complicated and usually extended over longer periods of time. And with longer timeframes come longer-duration float.

Perhaps the most basic form of reinsurance is a quota share arrangement. A primary insurer contracts with a reinsurer to take a certain percentage of its business. This allows the primary insurer to keep writing business without bumping up against capital limits. Reinsurance can be prospective, meaning that the reinsurer covers loss events that haven't occurred. It can also be retroactive meaning it covers loss events that have happened but for which the ultimate claims are unknown.

Reinsurance also comes with wonderful accounting nuances. For example, an excess reinsurance contract that covered all future expected losses on a book of business usually comes with a premium lower than those expected losses because of the time value of money. This loss is booked as an immediate underwriting loss and only future changes in loss estimates are booked to underwriting. A retroactive policy, by contrast, might have the same economics (a certain amount of unknown future losses) except the accounting is generally neutral day one. That loss booked upfront on the excess policy is instead capitalized and amortized into underwriting expenses over time. I spend this much time discussing accounting because of the implications on financial statement analysis. In short, the economics of upfront cash and long payment times (i.e., lots of float) are good, but the accounting can make it appear worse.

	Premiums written			Premiums earned			Pre-tax underwriting earnings (loss)		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
Property/casualty	$14,149	$13,295	$10,428	$13,740	$12,214	$ 9,911	$ 667	$ (799)	$ 16
Life/health	5,621	5,848	4,963	5,648	5,861	4,869	(421)	(18)	159
Retroactive reinsurance	136	38	684	136	38	684	(782)	(1,248)	(1,265)
Periodic payment annuity	658	566	863	658	566	863	(508)	(617)	(549)
Variable annuity	15	14	14	15	14	14	114	(18)	167
	$20,579	$19,761	$16,952	$20,197	$18,693	$16,341	$ (930)	$ (2,700)	$ (1,472)

Getting into BHRG's results we can see the retroactive reinsurance line basically wrote no volume in 2020 and 2021. Yet pre-tax underwriting losses totaled over $2 billion over the two years. That's in large part due to the deferred charge amortization asset put on the books at contract inception. These charges are currently hitting underwriting expense to the tune of about

$1 billion annually. Both the retroactive reinsurance line and the periodic payment annuity business share similar economic and accounting characteristics. It's normal to see losses in these areas in the absence of any major developments. The property/casualty and life/health lines, by contrast *should* show earnings over time. Here it's important to understand that BRK is also involved in catastrophe insurance which can show big profits in benign years but big losses in years with significant hurricanes, wildfires, earthquakes, etc. BRK has stated that it prices policies to payout 90% of losses over time. The key is over time. BRK is essentially paid to absorb volatility and is unafraid to show losses so long as the probabilities are in its favor. And a small loss over time can still be favorable from an economic perspective if the cost of float is modest.

	2021	2020	2019
Balances at beginning of year:			
Gross liabilities	$ 79,854	$ 73,019	$ 68,458
Reinsurance recoverable on unpaid losses	(2,912)	(2,855)	(3,060)
Net liabilities	76,942	70,164	65,398
Incurred losses and loss adjustment expenses:			
Current accident year	52,099	43,400	43,335
Prior accident years	(3,116)	(356)	(752)
Total	48,983	43,044	42,583
Paid losses and loss adjustment expenses:			
Current accident year	(22,897)	(17,884)	(19,482)
Prior accident years	(18,904)	(18,862)	(17,642)
Total	(41,801)	(36,746)	(37,124)
Foreign currency effect	(420)	480	(23)
Business acquisition (disposition)	—	—	(670)
Balances at December 31:			
Net liabilities	83,704	76,942	70,164
Reinsurance recoverable on unpaid losses	2,960	2,912	2,855
Gross liabilities	$ 86,664	$ 79,854	$ 73,019

One of the most important tables to understand in BRK's financial statement is the unpaid claims table (above). It shows the change in claims during the year starting with last year's balance. Within that table lies a figure for overall loss development in prior accident years. A negative number is a good thing since it indicates conservatism. In other words, BRK over-reserved in prior years (i.e., the underwriting profit should have been higher if perfect knowledge of the future could be had). There are full loss development tables for each business line in the BRK annual report that I won't cut/paste here. They show how losses developed in each of the previous ten years, and again tell the story of an organization focused on profitability and conservatism.

Berkshire's capital strength is simply unsurpassed. At year end 2021 its insurance subsidiaries had a combined $301 billion of statutory surplus. That means it's only writing about 25 cents of premiums per dollar of capital. For context, auto insurers are typically limited to $3 in premium volume per $1 capital. Chubb, another large insurer with $38 billion earned premiums wrote to about 50 cents per $1 capital. Swiss Re, a large reinsurer, wrote $40 billion on capital of $27 billion. Chris Bloomstran estimates that Berkshire writes less than 7% of combined reinsurance industry volume and yet has 33% of its capital. He puts BHRG at 10 cents of volume per dollar of capital, a truly massive margin of safety for claimants.

This capital strength has implications on the investment side of the balance sheet. Insurers in a more “normal” range of premiums/capital gain in additional premium volume (and presumably profits) but are restricted to “safe” assets like bonds for the most part. By operating with an eye toward profits first and foremost, and holding huge amounts of capital, BRK has elevated its operations above its peers. When BRK acquired BNSF it was National Indemnity that became its parent company prior to BRK parent. This meant the insurance operation had an entire railroad, a utility-like cash flow generator, sitting there pumping out cash for claimants. Other insurers can only dream of buying significant amounts of common stocks for their portfolio, let alone acquiring whole companies.

Because we’ve already assigned value to the investment portfolio earlier we can’t double count that when valuing the insurance operations. Instead, we can apply a normalized underwriting profit to current volumes (or your estimated run-rate for volume) and capitalize it. I use a 3% underwriting margin on current volume of $65 billion, which comes out to a little less than $2 billion of underwriting profits annually. Capitalize it at our 15x multiple and you get $29 billion of value from underwriting operations. BRK’s history suggests this is more than doable. I’ve kept it on the conservative side because I think there’s a chance float could decline at some point in the future. If that happens it will act as a drag on the investment portfolio as cash goes out the door, reducing value. If BRK can write to a 5% profit margin and float shrinks 2%, that 3% margin remains as a source of value.

Holding Company:

Certain assets and debt at Berkshire reside at the holding company level. For example, the Kraft Heinz shares are owned directly by the parent company. I’ve taken the approach of including those separately above. The only remaining item to take care of is holding company debt, which at the end of 2021 amounted to $21.4 billion.

Sum of the parts value:

The last step is to simply sum the parts of the analysis, which gets us to $742 billion or about 1.50x book value or $335 per B share ($502,600 per A share). Considering the conservatism used in each step along the way I have a very high degree of confidence in this figure. It’s also a good baseline for ongoing returns meaning that paying a $750 billion implied price for Berkshire should allow an ongoing return of perhaps 10% per annum. Remember, BRK is a collection of cash-generating assets not a point-in-time *thing* that never changes.

GAAP-Adjusted Financials:

The GAAP-Adjusted Financials approach is very similar to the sum-of-the-parts method. If done correctly it should result in a similar valuation.

After-tax earnings ($ millions)	**2021**	**Note**
Insurance - underwriting	$728	
Insurance - investment income	$4,807	
Railroad	$5,990	
Utilities and energy	$3,495	
Manuf., Service, Retailing	$11,120	
Investment and derivative gains/losses	$62,340	
Other	$1,315	
Net earnings - GAAP	$89,795	
Remove: Investment gain/loss	-$62,340	
Add: Underwriting to normalized	$1,222	Adjusts to $65bn premiums @ 3% profit
Add: Non-insurance to normalized	$0	
Add: Retained earnings of investees	$10,993	$15.7bn total look-thru earnings
Add: Expected future earnings on cash ($100bn @ 7.5%)	$7,500	Assumes value in cash optionality
Add: Non-economic intang. Amort. (total: $1,252)	$1,000	Approximately 80% add-back; 20% real
Total economic earnings	**$48,170**	
Value @ 15x	$722,550	
Economic earnings per share:		
A:	$32,632	
B:	$21.75	
Value / A-share:	$489,486	
Value / B-share:	$326	

- The starting point for the GAF approach is the GAAP financials. We start with what GAAP requires BRK to report, which in 2021 was a profit of $89.8 billion.

- Starting with the $89.8 billion in GAAP earnings we need to remove investment gains and losses. Investment gains/losses are really the noise of period-to-period fluctuations in the prices of securities. A change in accounting standards in 2018 required realized and unrealized gains be put through the income statement. BRK used to caution investors to ignore realized gains, and this change made things even worse, to the point of making the headline figures nonsensical. What we’re really trying to get at is earning power here, so stripping out all capital gains is required.

- The next step is to normalize underwriting profits. I adjust to the same 3% margin on $65 billion used earlier.

- Most of the items need no adjustment, such as the rail, utilities and energy, and MSR earnings, although in some years of depressed (or unusually high) profitability adjustments are warranted.

- Insurance investment income is already included in GAAP earnings. This number represents interest and dividends received from the portfolio. To this we must add the **Look Through Earnings [Definition]** of the numerous investees. That is, the earnings attributable to BRK's shares but not paid out as dividends. The total for 2021 was about $15.7 billion, so adding $11 billion to GAAP earnings is required.

- Berkshire's cash has optionality. I've chosen to assign an earning power of 7.5% to cash even in a world of super-low interest rates. I've borrowed the approach from Chris Bloomstran. It's a nice approach because a future acquisition (like the Alleghany deal that was just announced) doesn't distort the analysis. An assumed 7.5% (in my case) asset in cash is simply exchanged for another earning asset like a business.

- Finally, we have to add back non-economic intangibles amortization charges. I've chosen to add back 80% of the headline figure. Most of these charges, such as customer lists, aren't true detriments to economic value. The other 20% include amortization of software and should be included in expense.

- **Adding these numbers up we come up with economic earnings for BRK of about $48 billion. Capitalizing this number at 15x produces an intrinsic value estimate for BRK of $723 billion, rounded up to $725 billion.**

- I should point out up front that this analysis inflates the $100 billion of "usable" cash to $112.5 billion with a 7.5% earnings yield and 15x multiple. One could add the cash onto the end of the analysis instead, which is a reasonable approach too.

Two-Column Method:

Warren Buffett introduced the two-column method two decades ago as a short-hand way of tracking progress at Berkshire. For years he provided figures to shareholders before discontinuing the practice a few years ago. I won't go into great detail with this approach because it essentially incorporates work done earlier and is, in my view, inferior to those approaches.

The basic idea behind the two-column method is that Berkshire's value stems from its investment portfolio and its wholly owned businesses. The assumptions behind this method include the fact that neither category of assets is improperly funded with debt (which isn't considered), and that float is economically equivalent to equity.

I’ve chosen to do this on a company-level after-tax basis vs. a per-share-level pre-tax basis. The advantage of the per-share analysis is that you can see the effect of share repurchases (and issuances in applicable years) on per-share results. For any given year the company-level analysis works just fine, and as noted above uses the same figures from elsewhere.

This approach differs from the sum of the parts method in that parent company debt isn’t subtracted, and the equity method investments are valued on a capitalized basis of their earnings vs. book value.

Asset	Input (YE '21)	Adjustment	Valuation	
Cash	$143,854	100%	$143,854	
Fixed maturity (bonds)	$16,434	100%	$16,434	
Investments:	$350,719			1
Valuation adjustment	-$49,000			2
Deferred tax liab.	-$41,370			3
Investments, net			$260,349	4
Subtotal - Investments			**$420,637**	

Earnings	2018	2019	2020	2021	Normalized	
Insurance underwriting	$1,566	$325	$657	$728	$1,950	5
Railroad	$5,219	$5,481	$5,161	$5,990	$6,000	
Utilities and energy	$2,621	$2,840	$3,091	$3,495	$3,500	
Manuf., Service, Retailing	$9,364	$9,372	$8,300	$11,120	$11,000	
Other	-$1,566	$424	-$11,318	$1,315	$726	6
Add back $11bn write-down	$0	$0	$11,000	$0	$0	
Total After Tax Earnings	**$17,204**	**$18,442**	**$16,891**	**$22,648**	**$23,176**	
Multiple	15.0x	15.0x	15.0x	15.0x	15.0x	
Subtotal - Operating Businesses	$258,060	$276,630	$253,365	$339,720	$347,640	
Current total valuation ($mil):				$760,357	$768,277	
Per A-Share:				***$515,098***	***$520,463***	
Per B-Share:				***$343***	***$347***	

Notes:

1 13F Total = $336bn; only US-listed stocks; incl. KHC
2 Adjust Apple to 20x earnings; leave remainder of portfolio valued as-is
3 21% x ($246bn unrealized gain - $49bn Apple adjustment)
4 (Look-thru earnings = ~$15.8bn --> ~16.5x earnings or 6% earnings yield)
5 $65 billion premiums at 3% profit
6 Non-KHC equity-method earnings

Two-column method using per share amounts and pre-tax earnings

					Value Per A-Share		
	Investments	Pre-tax op. earnings	Pre-tax op. earnings/share	Investments/ share	Investments + 10x pre-tax	Investments + 12x pre-tax	Investments + 15x pre-tax
2021	$511,007	$27,495	$18,610	$345,876	$531,976	$569,196	$625,026
2020	436,594	19,669	12,739	282,775	410,169	435,647	473,865
2019	391,685	23,585	14,514	241,043	386,185	415,214	458,756
2018	301,910	21,335	13,002	183,987	314,005	340,009	379,014
2017	298,423	16,808	10,219	181,429	283,615	304,052	334,708
2016	240,698	13,085	7,958	146,381	225,958	241,874	265,747
2015	204,493	10,317	6,278	124,433	187,212	199,768	218,601
2014	203,194	19,667	11,971	123,679	243,388	267,329	303,242
2013	189,035	17,410	10,590	114,988	220,891	242,072	273,843
2012	168,211	14,357	8,739	102,384	189,770	207,247	233,462
2011	142,338	11,419	6,917	86,223	155,396	169,230	189,982
2010	129,292	11,560	7,014	78,448	148,589	162,617	183,659
2009	119,214	5,306	3,419	76,826	111,019	117,858	128,116
2008	101,447	10,313	6,657	65,482	132,050	145,364	165,335
2007	146,665	9,894	6,393	94,764	158,691	171,477	190,655
2006	130,233	9,827	6,370	84,422	148,124	160,864	179,975
2005	118,801	3,817	2,477	77,107	101,881	106,836	114,268
2004	103,990	4,623	3,004	67,581	97,624	103,633	112,646
2003	97,360	4,676	3,043	63,359	93,790	99,876	109,005
2002	79,207	2,425	1,580	51,612	67,414	70,574	75,315

Notes:
1. Investments include cash from insurance & other, equity securities, and fixed income investments.
2. Pre-tax operating earnings include underwriting gains and losses as reported.

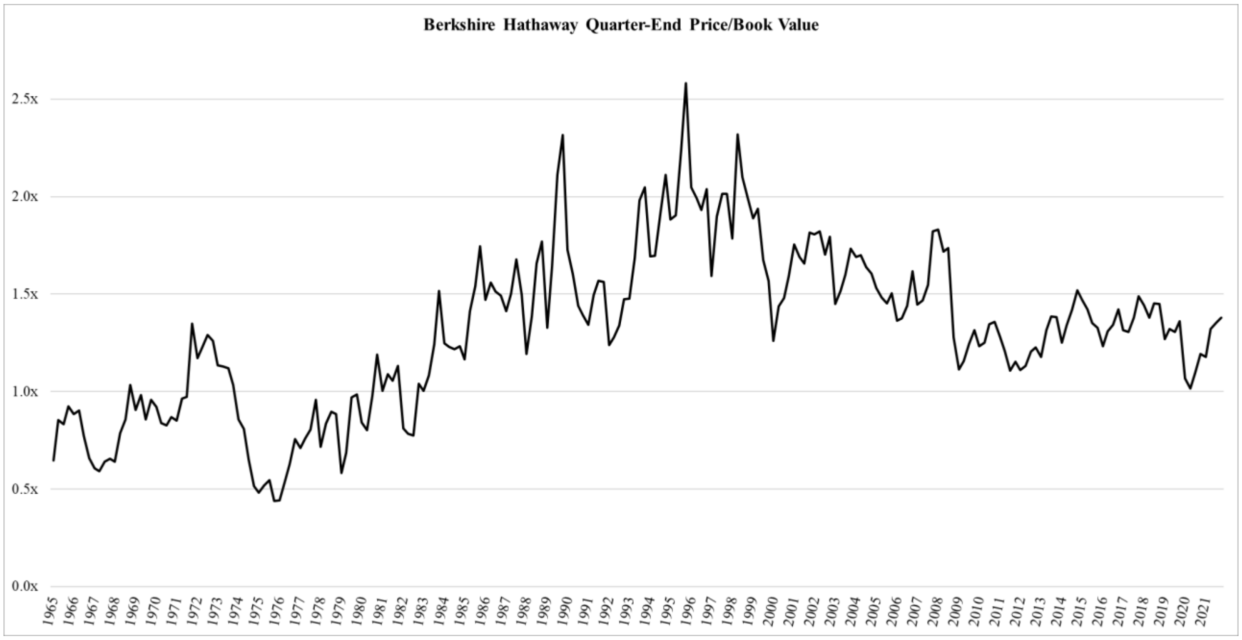
Price-to-book:

Valuing BRK (or any company) on the basis of price-to-book is to put one foot into the chartists territory. The "valuation" consists of determining if the company is trading within an "appropriate" range given its historical trading patterns. The appropriate P/B is better determined using a true valuation methodology like those above. Nonetheless, P/B is a good gut-check.

Both the upward trend of BRK's earlier history and the downward trend after the 1990s reflected longer-term changes in the conglomerate's prospects. Looking at the full data set going back to 1965 we can see BRK's P/B increase in the 1970s from 0.50x as the company's advantages were recognized by the market. The ratio peaked at over 2.50x during the mid-1990s and then resumed a downward trend that has put it in a range of between 1.0x and 1.5x after the Great Recession period. To take one extreme data point, the 1.0x ratio logged in Q1 2020 is clearly outside of the "norm" for Berkshire. Anyone buying there would have made money, but so would buying basically anything at the nadir of the pandemic pandemonium.

Price-to-book is better thought of as the output of a more comprehensive analysis, or at least as a rough gut-check *after* going through other exercises.

One should also recognize the distorting effects of BRK share repurchases, which depress book value even while increasing intrinsic value. Also, the value of wholly owned subsidiaries increases at the rate of their retained earnings. A properly valued subsidiary might increase at a capitalized value of that increase. This is all to say that the "appropriate" price/book changes over time.



Valuation Conclusion:

		Shares out (A-equiv.)	*Shares out (B-equiv.)*
		1,476,141	*2,214,212,161*
Valuation technique	**Company Value**	**BRKA**	**BRKB**
Sum of the parts	$741,853	$502,562	$335
GAAP-Adjusted	$722,550	$489,486	$326
Two-column Normalized	$768,277	$520,463	$347
Simple price/book	$759,000	$514,178	$343
Average	**$747,920**	**$506,672**	**$338**
Rounded	$750,000	$508,081	$339

Each method used to value BRK uses the same basic component parts and so it shouldn't be surprising to see the valuations so close. Given our detailed analysis for the sum of the parts and GAAP-Adjusted financials approaches, these two should be given more weight.

We can reasonably estimate Berkshire Hathaway's intrinsic value is about $750 billion or about $508,000 per A-Share or $340 per B-Share.

Importantly, this is a point-in-time value. Berkshire is a collection of businesses, earning assets that will continue to pump out cash over time. We might reasonably expect, based on the factors concluded in the analyses above, that BRK can increase its intrinsic value by 10% per year. Buying at current prices means assuming a modest but confident future return.

Finally, below is an important table of some of the reasons why BRK is worth more as a going concern than broken up. We might value it on a piecemeal basis but the whole really is worth more than the sum of its parts.

Synerg…Okay I won't use that dirty word with BRK. Here are a few reasons why BRK is worth more together than apart:

- **Tax credits:** Full benefit of tax credits at Berkshire Hathaway Energy. A standalone utility couldn't maximize them without the taxable base that other parts of BRK bring.
- **Movement of capital:** Capital can move between subsidiaries without tax consequences. This has implications for access to capital and prevents unnecessary buildup of capital and/or poor reinvestment because of lack of opportunities.
- **Parent company credit:** Berkshire can put its credit to work by using its superior credit rating to secure low-cost capital, which it can then re-lend internally to subsidiaries, capturing a spread and lowering borrowing costs for its subs.
- **Investment flexibility:** Unrivaled capital strength means uncommon flexibility. BRK insurance companies hold the assets of independently managed investments (both common stocks and wholly owned subsidiaries) which provide capital strength.
- **Focus:** BRK subsidiaries don't have distracting conference calls or investor days to prepare for. Expensive boards of directors are eliminated.

MANAGEMENT/OWNERSHIP:

"Berkshire's operating businesses are managed on an unusually decentralized basis." So reads a recurring line in the BRK annual report. Warren Buffett and Charlie Munger have also used the phrase "Delegation just shy of abdication" to describe BRK's system of trusting managers with complete control of operations, the very definition of autonomy. Still, some centralized functions are needed at BRK headquarters in Omaha. The most important is capital allocation.

Chairman and CEO, Warren Buffett, long played three roles: the first two titles just mentioned, and chief investment officer overseeing BRK's huge portfolio of common stock investments, and to a lesser degree its fixed income investments. Buffett, who will turn 92 in August, put a plan in place a decade ago to split his role into three parts.

Buffett suggested that his son, Howard, be appointed as non-executive chairman, for the sole purpose of acting as a safety valve in the event the new CEO goes rogue.

The CEO role was decided in the last year when Charlie Munger slipped his tongue and pointed to Greg Abel as the man to get the nod. This wasn't a surprise to longtime observers, as Abel, 59 years old, was named vice chairman, non-insurance operations in 2018 and has long been praised by both Buffett and Munger as a world-class executive. (Ajit Jain, 70, will continue to serve as vice chairman, insurance operations.)

About a decade ago Buffett named Todd Combs and Ted Weschler as investment managers. They currently oversee $30 billion apiece of BRK's investment portfolio and will take over for Buffett when he steps down. In all likelihood both men will continue to serve BRK in other capacities, including consulting with Abel on acquisition candidates.

As of the March 2, 2022 proxy date, 18.3% of BRK was owned by insiders. Buffett's 16.2% share makes up the majority. He also controls just shy of one-third of the voting power by virtue of his large holdings of Class A shares, which have greater voting rights but proportionate economic rights to Class B shares. Other large holders include David Gottesman (1.6% economic / 2.9% voting), and Charlie Munger (0.3% / 0.6%). Another large BRK shareholder is the Bill and Melinda Gates Foundation with a roughly 1.5% stake.

RISKS:

Berkshire Hathaway is about as strong a business that has been built, but it's not without its risks.

- **Governance/succession:** Who will take over at the top in Omaha has largely been decided. But there are risks that the 2nd and 3rd generation of managers at the subsidiary level aren't as good as those currently in place or who sold their companies to BRK. Replacing a founder working for fun because they enjoy it and don't need the money is clearly an insurmountable challenge. However, I believe the autonomy given to managers will work in BRK's favor to motivate each new manager to perform to his/her best, even when Buffett is gone. The elevation of Greg Abel and Ajit Jain to vice chairman in 2018 introduced a layer between Buffett and the heads of BRK's subsidiaries that seems to be working well. Each manager is also required to have a "name in an envelope" in the event s/he can no longer serve in their role.

It's also important to note that several subsidiaries have already gone through management changes without issue. Matt Rose at BNSF passed the reins to Carl Ice who recently passed them to Katie Farmer. Longtime See's Candies CEO, Chuck Huggins, passed the torch to Brad Kinstler and then to Pat Egan. Other BRK subsidiaries have had similarly successful handovers.

- **Capital allocation:** It's possible that the team of investment managers, the CEO, and the board, all succumb to the thinking that a use for BRK's surplus capital is just around the corner and wait too long to bleed off excess cash. There will come a time, probably within the next 5 to 10 years, where BRK is unable to buy back shares at a rational price and must institute a dividend. This will be a major shift in policy for an organization that last paid a dividend in 1967. However, I believe any dividend will likely start small and the policy will be crafted to maximize the value for shareholders considering all capital allocation opportunities.

- **Outside influence:** Calls for breaking up BRK will intensify after Buffett's death. Wall Street will be licking its chops to get its hands on BRK's crown jewels and try to convince insiders and shareholders to break up the conglomerate. This would be a terrible mistake. It could make sense for a few selective divestitures, such as was the case with the Media Group and Kirby. However, management will need to weigh the immediate economic case with that of preserving BRK's reputation as a permanent home for good businesses. If BRK sells off divisions that are struggling it could inadvertently send a signal to business sellers that the Buffett promise is broken.

SUMMARY/CONCLUSION:

Berkshire Hathaway is an incredible business that was carefully crafted over more than half a century by two of the world's greatest investors, Warren Buffett, and Charlie Munger, in addition to dozens of families and hundreds of thousands of employees. The company's long history of deserved success weighs on its prospects due to its huge present size, but most of the attributes that made it successful remain today. Shares are closer to intrinsic value today after a runup in the share price over the past year. However, modest expectations for what the conglomerate can deliver to investors over time mean it's still a good candidate for portfolios and certainly a continued member of the Watchlist.

Stay rational! —Adam

P.S. I'll be in Omaha for the BRK annual meeting beginning on Thursday, April 27. Come see me speak on the Gabelli panel on Friday. After that and on Saturday I'll be spending as much time as possible at the Bookworm inside the CHI Center. Buffett chose my book (last shameless plug I promise) to be among the select few offered for sale during the meeting. Stop by and say hello.

Note on the Alleghany acquisition:

On March, 21, 2022, Berkshire announced that it was acquiring Alleghany Corporation for $11.6 billion. Alleghany is a "mini-Berkshire" of sorts, having as its core business insurance and reinsurance (mostly property/casualty) in addition to a portfolio of non-insurance operating businesses. Alleghany is run by Joe Brandon, former CEO of BRK subsidiary General Re. (He could be an excellent second/successor to Ajit Jain.) The deal values Alleghany at 1.26x book value, however, it is expected to close toward the end of 2022, which probably means an effective price of 1.15x. Perhaps more important, the deal brings about $12 billion of float and an insurance operation that's managed an underwriting profit over time. In short, this is a great "plug and play" operation to expand BRK's already massive insurance business. I'd expect the company to operate autonomously like other BRK subs, although investment portfolio management will almost assuredly move to Omaha.

APPENDICES:

Berkshire Hathaway - Insurance Underwriting

($ millions)	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
GEICO										
Premiums earned	37,706	35,093	35,572	33,363	29,441	25,483	22,718	20,496	18,572	16,740
Underwriting gain/(loss) - pre-tax	$1,259	$3,428	$1,506	$2,449	($310)	$462	$460	$1,159	$1,127	$680
General Re										
Premiums earned			*Consolidated w/BHRG*			5,637	5,975	6,264	5,984	5,870
Underwriting gain/(loss) - pre-tax						$190	$190	$277	$283	$355
Berkshire Hathaway Reinsurance Group										
Premiums earned	$20,197	$18,693	$16,341	$15,944	$24,013	$8,504	$7,207	$10,116	$8,786	$9,672
Underwriting gain/(loss) - pre-tax[1]	($930)	($2,700)	($1,472)	($1,109)	($3,648)	$822	$421	$606	$1,294	$304
Berkshire Hathaway Primary Group										
Premiums earned[2]	$11,575	$9,615	$9,165	$8,111	$7,143	$6,257	$5,394	$4,377	$3,342	$2,263
Underwriting gain/(loss) - pre-tax	$607	$110	$383	$670	$719	$657	$824	$626	$385	$286
Total premiums earned	$69,478	$63,401	$61,078	$57,418	$60,597	$45,881	$41,294	$41,253	$36,684	$34,545
Total underwriting gain/(loss) - pre-tax	936	838	417	2,010	(3,239)	2,131	1,895	2,668	3,089	1,625
Underwriting margin	1.3%	1.3%	0.7%	3.5%	(5.3%)	4.6%	4.6%	6.5%	8.4%	4.7%
Average float	142,500	133,500	126,078	118,616	103,039	89,650	85,822	80,581	75,183	71,848
Cost of float	(0.7%)	(0.6%)	(0.3%)	(1.7%)	3.1%	(2.4%)	(2.2%)	(3.3%)	(4.1%)	(2.3%)
Aggregate adverse (favorable) loss development[2]	($3,116)	($356)	($752)	($1,406)	($544)	($1,523)	($2,015)	($1,365)	($1,752)	($2,126)

Note: Berkshire Hathaway Primary Group and BHRG written premiums were not detailed.

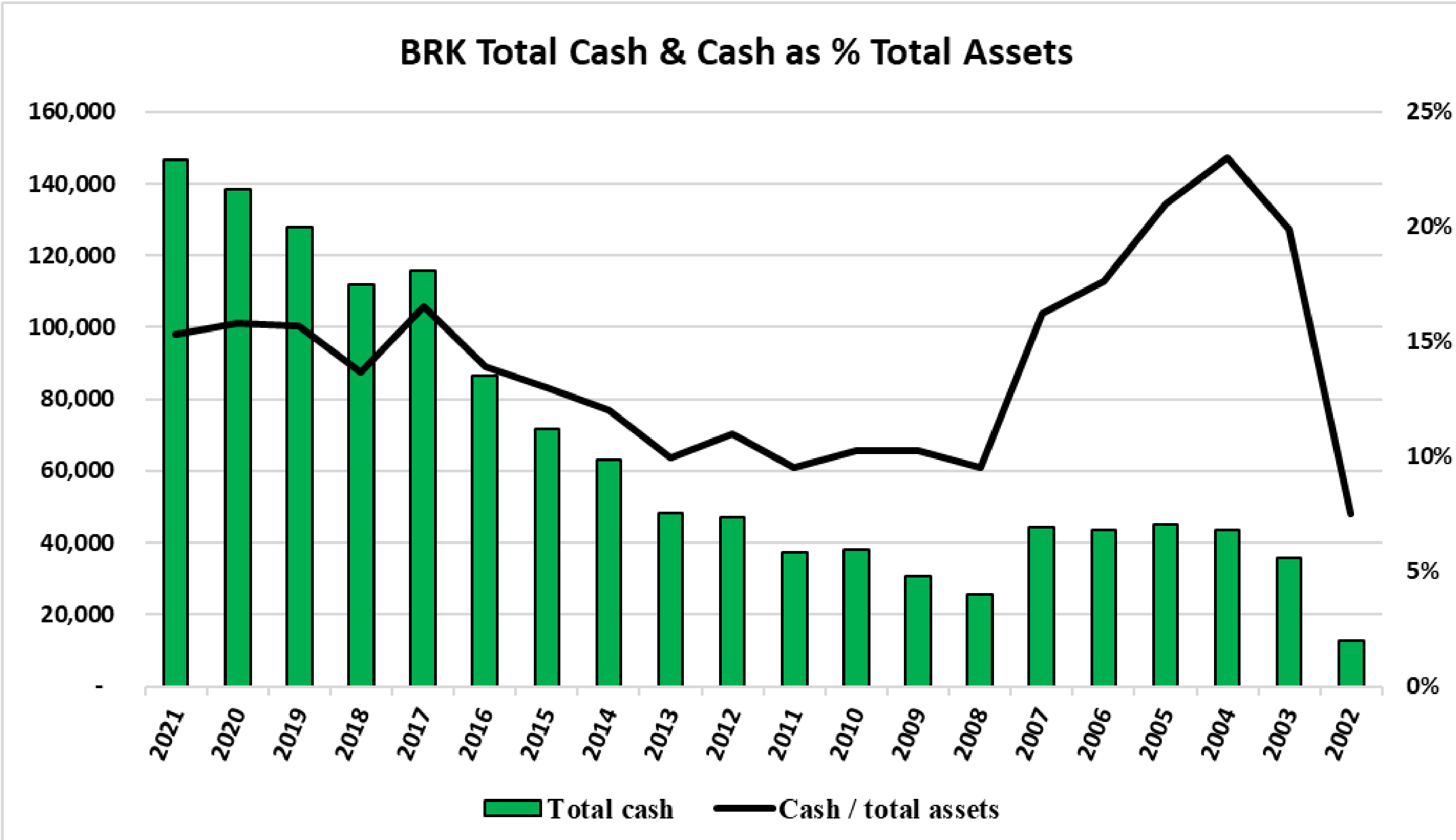
Footnotes:
1. The $250 million pre-tax underwriting gain presented for BHRG in 2009 is the updated 2010 figure. The original amount was $349 million. In 2010, Berkshire moved the life and annuity business to BHRG from Finance and Financial Products.
2. Per the notes to the financial statements. Percentage is the ratio of loss development to earned premiums.

Berkshire Hathaway Insurance Group float, select data and information

Year-end Float ($ millions)							
Year	GEICO	General Reins.	BH Reins.	Other Primary	Total	Avg. Float	Float Cost
1994						3,057	(4.2%)
1995						3,607	(0.6%)
1996						6,702	(3.3%)
1997	2,917		4,014	455	7,386	7,093	(6.5%)
1998	3,125	14,909	4,305	415	22,754	15,070	(1.8%)
1999	3,444	15,166	6,285	403	25,298	24,026	5.8%
2000	3,943	15,525	7,805	598	27,871	26,585	6.1%
2001	4,251	19,310	11,262	685	35,508	31,690	12.8%
2002	4,678	22,207	13,396	943	41,224	38,366	1.1%
2003	5,287	23,654	13,948	1,331	44,220	42,722	(4.0%)
2004	5,960	23,120	15,278	1,736	46,094	45,157	(3.4%)
2005	6,692	22,920	16,233	3,442	49,287	47,691	(0.1%)
2006	7,171	22,827	16,860	4,029	50,887	50,087	(7.7%)
2007	7,768	23,009	23,692	4,229	58,698	54,793	(6.2%)
2008	8,454	21,074	24,221	4,739	58,488	58,593	(4.8%)
2009	9,613	21,014	26,223	5,061	61,911	60,200	(2.6%)
2010	10,272	20,049	30,370	5,141	65,832	63,872	(3.2%)
2011	11,169	19,714	33,728	5,960	70,571	68,202	(0.4%)
2012	11,578	20,128	34,821	6,598	73,125	71,848	(2.3%)
2013	12,566	20,013	37,231	7,430	77,240	75,183	(4.1%)
2014	13,569	19,280	42,454	8,618	83,921	80,581	(3.3%)
2015	15,148	18,560	44,108	9,906	87,722	85,822	(2.1%)
2016	17,148	17,699	45,081	11,649	91,577	89,650	(2.4%)
2017	*Detail no longer provided*				114,500	103,039	3.1%
2018					122,732	118,616	(1.7%)
2019					129,423	126,078	(0.3%)
2020					138,000	133,712	(0.6%)
2021					147,000	142,500	(0.7%)

Year-end Float (% Growth)						
Year	GEICO	General Reins.	BH Reins.	Other Primary	Total	Avg. Float
1994						16.5%
1995						18.0%
1996						85.8%
1997						5.8%
1998	7.1%	n/a	7.2%	(8.8%)	208.1%	112.5%
1999	10.2%	1.7%	46.0%	(2.9%)	11.2%	59.4%
2000	14.5%	2.4%	24.2%	48.4%	10.2%	10.6%
2001	7.8%	24.4%	44.3%	14.5%	27.4%	19.2%
2002	10.0%	15.0%	18.9%	37.7%	16.1%	21.1%
2003	13.0%	6.5%	4.1%	41.1%	7.3%	11.4%
2004	12.7%	(2.3%)	9.5%	30.4%	4.2%	5.7%
2005	12.3%	(0.9%)	6.3%	98.3%	6.9%	5.6%
2006	7.2%	(0.4%)	3.9%	17.1%	3.2%	5.0%
2007	8.3%	0.8%	40.5%	5.0%	15.3%	9.4%
2008	8.8%	(8.4%)	2.2%	12.1%	(0.4%)	6.9%
2009	13.7%	(0.3%)	8.3%	6.8%	5.9%	2.7%
2010	6.9%	(4.6%)	15.8%	1.6%	6.3%	6.1%
2011	8.7%	(1.7%)	11.1%	15.9%	7.2%	6.8%
2012	3.7%	2.1%	3.2%	10.7%	3.6%	5.3%
2013	8.5%	(0.6%)	6.9%	12.6%	5.6%	4.6%
2014	8.0%	(3.7%)	14.0%	16.0%	8.6%	7.2%
2015	11.6%	(3.7%)	3.9%	14.9%	4.5%	6.5%
2016	13.2%	(4.6%)	2.2%	17.6%	4.4%	4.5%
2017	*Detail no longer provided*				25.0%	14.9%
2018					7.2%	15.1%
2019					5.5%	6.3%
2020					6.6%	6.1%
2021					6.5%	6.6%

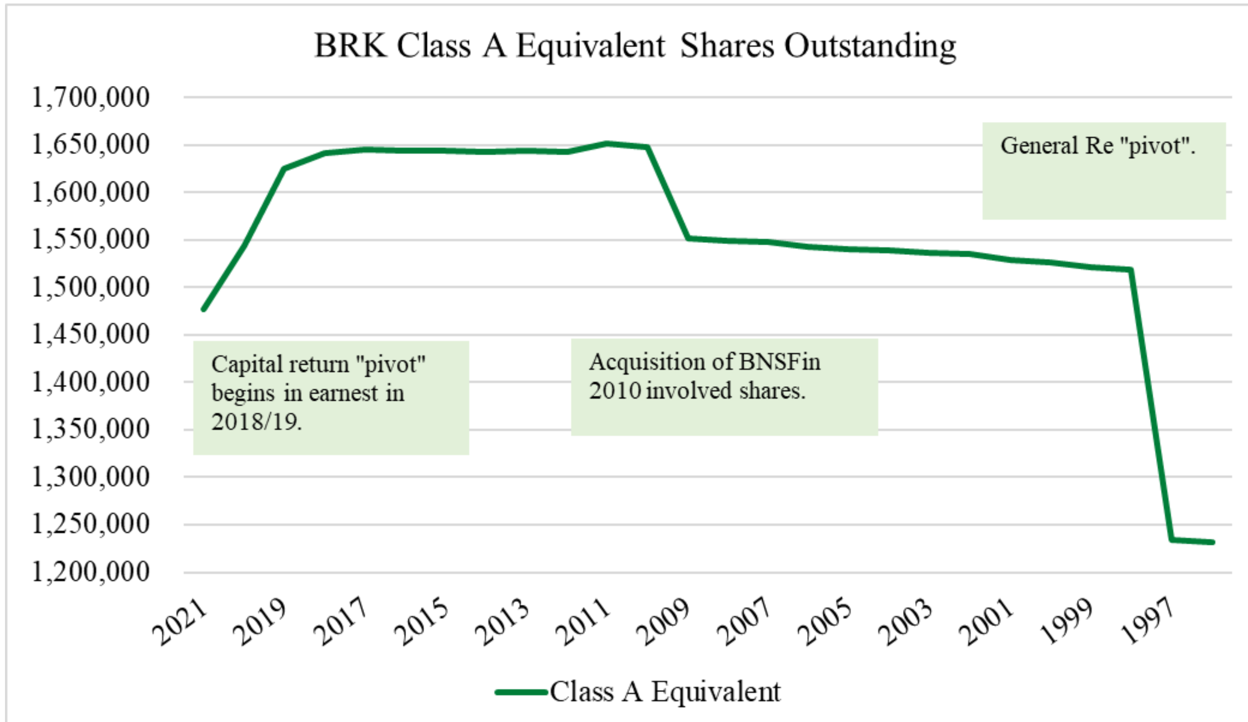
Sources: Berkshire Hathaway Annual Reports and author's calculations.



BRK Total Cash & Cash as % Total Assets
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
-
25%
20%
15%
10%
5%
0%
2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2011
2010
2009
2008
2007
2006
2005
2004
2003
2002
Total cash
Cash / total assets

	Cash												
$ millions	Insurance & Other	Rail, Utilities	Total cash	Total assets	Stocks	Float	LTD	Total equity	Cash / total assets	Cash / float	Net debt / equity	Stocks / equity	Stocks / assets
2021	$143,854	$2,865	$146,719	$958,784	$350,719	$147,000	$114,262	$514,930	15%	100%	-6%	68%	37%
2020	135,014	3,276	138,290	873,729	281,170	138,000	116,895	451,336	16%	100%	-5%	62%	32%
2019	124,973	3,024	127,997	817,729	248,027	129,423	103,368	428,563	16%	99%	-6%	58%	30%
2018	109,255	2,612	111,867	817,729	172,757	122,732	97,490	352,500	14%	91%	-4%	49%	21%
2017	113,044	2,910	115,954	702,095	164,026	114,500	102,587	351,954	17%	101%	-4%	47%	23%
2016	82,431	3,939	86,370	620,854	134,835	91,577	101,644	285,428	14%	94%	5%	47%	22%
2015	68,293	3,437	71,730	552,257	110,212	87,722	84,289	258,627	13%	82%	5%	43%	20%
2014	60,268	3,001	63,269	525,867	115,529	83,921	79,890	243,027	12%	75%	7%	48%	22%
2013	44,786	3,400	48,186	484,931	115,464	77,240	72,224	224,485	10%	62%	11%	51%	24%
2012	44,422	2,570	46,992	427,452	87,081	73,125	62,736	191,588	11%	64%	8%	45%	20%
2011	35,053	2,246	37,299	392,647	76,063	70,571	60,654	168,961	9%	53%	14%	45%	19%
2010	35,670	2,557	38,227	372,229	59,819	65,832	58,574	162,934	10%	58%	12%	37%	16%
2009	30,129	429	30,558	297,119	56,562	61,911	37,909	135,785	10%	49%	5%	42%	19%
2008	25,259	280	25,539	267,399	49,073	58,488	36,882	113,707	10%	44%	10%	43%	18%
2007	43,151	1,178	44,329	273,160	74,999	58,698	33,826	120,733	16%	76%	-9%	62%	27%
2006	43,400	343	43,743	248,437	61,533	50,887	32,605	108,419	18%	86%	-10%	57%	25%
2005	44,660	358	45,018	214,368	46,721	49,287	17,577	91,484	21%	91%	-30%	51%	22%
2004	43,427	-	43,427	188,874	37,717	46,094	8,837	85,900	23%	94%	-40%	44%	20%
2003	35,957	-	35,957	180,559	35,287	44,220	7,832	77,596	20%	81%	-36%	45%	20%
2002	12,748	-	12,748	169,544	28,363	41,224	8,169	64,037	8%	31%	-7%	44%	17%

	Class A Equivalent	Repurchases ($ mil)
2021	1,477,429	$26,942
2020	1,543,960	24,728
2019	1,624,958	5,016
2018	1,640,929	1,346
2017	1,644,846	-
2016	1,644,321	-
2015	1,643,393	-
2014	1,642,909	400
2013	1,643,954	-
2012	1,642,945	1,178
2011	1,650,806	67
2010	1,648,120	
2009	1,551,749	
2008	1,549,234	
2007	1,547,693	
2006	1,542,649	
2005	1,540,723	
2004	1,538,756	
2003	1,536,630	
2002	1,534,657	
2001	1,528,217	
2000	1,526,230	
1999	1,520,562	
1998	1,518,548	
1997	1,234,127	
1996	1,232,245	



WHAT'S COMING NEXT ISSUE:

There are a couple of companies I've come across for the first time or that reappeared on my radar recently. All happen to be microcaps, so I might call the next issue the "May Microcap Issue". I won't provide any names at this point as I'm considering them for investment. As always, I'll be upfront about my fiduciary duty to my clients and tell you if I own something when I write about it for Watchlist Investing.

As always, I appreciate your thoughts, comments, feedback, and of course recommendations for companies to look at.

Watchlist

As of April 22, 2022

WATCHLIST Count: 20

Company Name	Industry	Ticker	Current Price	Market Cap	See Issue #
AAON, Inc.	Building Products	AAON	$57	$2,857,599,154	1
Berkshire Hathaway	Conglomerate	BRK.B	$340	$763,396,816,980	1, 14
Hingham Institution for Savings	Banking	HIFS	$340	$735,968,025	1
Monarch Cement	Building Products	MCEM	$117	$307,044,270	2
International Flavors and Fragrances	Foods/Seasonings	IFF	$125	$31,888,956,482	3
McCormick	Foods/Seasonings	MKC	$104	$27,707,583,454	3
Bank7	Banking	BSVN	$22	$200,275,844	4
Plumas Bancorp	Banking	PLBC	$35	$202,426,858	4
Auburn Bancorp	Banking	AUBN	$32	$111,031,645	5
Waste Management	Waste Management	WM	$160	$66,231,995,664	6
Republic Services	Waste Management	RSG	$134	$42,315,706,695	6
Waste Connections	Waste Management	WCN	$139	$35,888,525,924	6
Boston Beer Company	Alcoholic beverages	SAM	$352	$4,526,500,924	7, 12
Constellation Brands	Alcoholic beverages	STZ	$254	$49,072,212,597	7, 12
Anheuser-Busch InBev	Alcoholic beverages	BUDFF	$61	$104,759,810,558	7, 12
Heineken	Alcoholic beverages	HEINY	$51	$58,840,992,689	7, 12
Old Dominion Freight Line	Logistics	ODFL	$274	$31,320,670,556	8
Saia, Inc.	Logistics	SAIA	$209	$5,601,687,480	8
Fastenal	Industrial Distributing	FAST	$58	$32,906,353,629	9
Jack Henry & Associates	Banking Software	JKHY	$200	$14,445,686,553	11

Click here to see the latest Watchlist and Suspect List on Google Sheets.

Watchlist Investing Newsletter

Patiently finding and following great public companies to own at the right price.

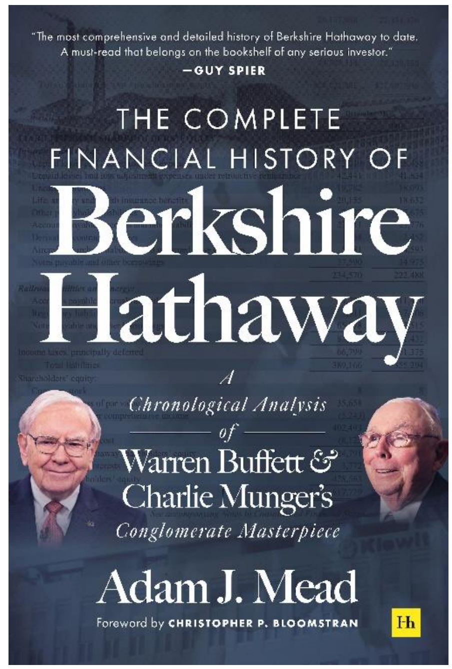
Issue #14 | April 2022

About

After nearly two decades as an individual investor, a decade in commercial credit at various banks, and a few years managing money for friends/family in the background, I decided to go full-time managing money for clients in 2020. Watchlist Investing is an extension—albeit separate and distinct—of what I do day-to-day as a practicing capital allocator. Inverting the margin of safety principle, I hope to add value to readers above and beyond the nominal cost of the newsletter.

My investing style is influenced by my background growing up in a family of business owners. I followed suit selling firewood through high school and founding a welding business in college. Looking at stocks as businesses is natural to me. My investing approach rests on fundamental value investing tenets, but it's adapted to suit my style. I'm 100% certain I'm not the best investor or analyst, but I hope to improve over time.

Between 2016 and 2021, I wrote a book on Berkshire Hathaway. *The Complete Financial History of Berkshire Hathaway* was and is my passion project. I hope it brings new shareholders up to speed on the company and provide a fresh look to longtime shareholders, in addition to serving as a resource/reference book. It can be purchased here. I also created www.theoraclesclassroom.com as an extension of the book, which includes an archive of a lot of BRK material.



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