2023 2H Investor Letter

	1Q	2Q	3Q	4Q	Full year	S&P 500 (including dividends)
2015	NA	NA	-4.42%	9.51%	4.67%	1.40%
2016	0.39%	-0.07%	1.95%	10.03%	13.87%	11.96%
2017	3.82%	5.45%	6.32%	9.75%	27.77%	21.87%
2018	-0.58%	5.08%	1.05%	-10.05%	-4.54%	-4.39%
2019	12.86%	1.36%	0.01%	10.65%	26.6%	31.49%
2020	-11.78%	15.90%	16.51%	5.85%	26.14%	16.03%
2021	3.67%	11.15%	0.71%	3.56%	20.18%	28.71%
2022	-12.32%	-25.24%	-2.90%	-1.23%	-37.56%	-19.3%
2023	13.90%	13.3%	-2.22%	15.0%	45.01%	26.60%
Annualized Return since Inception					11.51%	12.20%

Summary:

Our portfolio increased by 12.9% in the 2H/2023 and 45% for 2023. Our annualized return since inception is 11.5% compared with 12.2% for the S&P 500. We remain committed to outperforming the S&P 500 index in the long term.

In the latter half of 2023, a notable shift in the outlook of interest rates propelled the stock market upwards. The prevailing consensus suggests that the Federal Reserve's actions have been effective in combating inflation, contributing to a robust economic foundation despite witnessing the most rapid rate hikes in decades. Optimism among investors is palpable, with expectations leaning towards potential three to six rate cuts by the Fed in 2024.

However, historical precedent reminds us that investor consensus can often be misguided, especially in recent years. Consequently, there is a risk of disappointment if expectations for earlier rate cuts or sustained lower long-term rates prove overly optimistic. Even in the event of rate cuts in 2024, we anticipate the Fed's long-term rate to surpass three percent for the coming decade, in contrast to the sub-one percent levels observed from 2008 to 2021. Under this scenario, our strategy continues to prioritize avoiding long-duration assets in favor of investing in companies with consistent cash flow at reasonable valuations.

In the 2H/23, our decision to trim our AI-semi holdings in 2023 due to concerns about potential waning GPU demand post-initial ramp has proven to be premature. Contrary to our assumptions, all evidence suggests a sustained demand for GPUs. While this decision has incurred some costs, given the subsequent rally in AI-semi names in early 2024, our remaining stake in AI-semi still represents a significant portion of our exposures, standing at 20%. Concurrently, our holdings in

tech giants have remained relatively stable. Additionally, we initiated a new position in Take-Two Interactive. Our cash position stands at approximately 12% by year-end, providing us with flexibility and liquidity. As customary, I want to discuss some observations on AI trends and offer updates on our portfolio holdings.

AI trends:

- GPU Demand:

The demand for GPUs has significantly surpassed our initial expectations, with GPU sales projected to exceed $100 billion in 2024. A key factor driving this strong demand has been the emergence of several major new buyers.

a. Tech giants are aggressively pursuing the development of next-generation LLM (Large Language Model) models, necessitating tens of thousands of GPUs, many times more than those utilized in training GPT-4. Companies such as Microsoft (MSFT), Google (GOOG), and Amazon (AMZN) have all indicated to investors that their capital expenditures will increase in 2024. Meta (formerly Facebook) has entered the AI race and plans to acquire nearly 350,000 H100s in 2024 for training the next-generation LLM model, Llama 3.

b. Well-funded AI start-ups are also heavily investing in this competition, pouring billions of dollars into the development of AI technologies. This category includes specialized GPU cloud vendors such as Coreweave and Lambda, as well as leading independent AI model companies such as OpenAI, Anthropotic, and Xai, all of which possess high funding capabilities.

c. Governments worldwide are actively pursuing the development of sovereign AI capabilities. Countries like Canada, Japan, and the UAE are in discussions with Nvidia regarding the establishment of AI clouds to stimulate economic growth and safeguard intellectual property rights. While these initiatives are in their nascent stages, the potential orders could be substantial.

- AI infrastructure and its monetization

The development of AI infrastructure extends beyond mere GPU procurement; it entails complex system integration projects demanding expertise across various sectors, including cloud computing, networking, software, and energy planning. Among the entities best positioned to undertake these endeavors are the cloud giants, leveraging their extensive experience in scaling public cloud services and substantial financial resources.

Questions have arisen from investors regarding the return on investment in AI infrastructure for tech giants. Thus far, AI investments have yielded notably higher Internal Rates of Return (IRRs) for cloud giants than many other ventures. The strategic investment in AI infrastructure presents a clear pathway to monetization, whether by improving the in-house business metrics, such as increasing ad click-through rates , or selling GPU cloud rental and AI services to outside customers.

Over the last decade, technology giants have encountered challenges in allocating excess capital to projects capable of matching the scale of their core businesses. Some ventures into futuristic products, such as drone delivery, self-driving cars, and AR/VR, resulted in sustained losses that led to investment retractions.

The establishment of state-of-the-art AI infrastructure with lucrative returns potentially represents a significant compounding opportunity for cloud giants. To quote Warren Buffett, it aligns with the pursuit of an "ideal business that earns very high return on capital and could keep using lots of capital at those high returns." The AI infrastructure sector holds the potential to substantially elevate the stature of tech giants beyond their current size.

Existing Holdings/Non-tech:

Berkshire:

The passing of Charlie Munger on November 28, just 33 days shy of his 100th birthday, marked the end of an era. In Warren Buffett's most recent shareholder letter, he rightfully hailed Mr. Munger as the 'architect of Berkshire Hathaway,' acknowledging his indelible imprint on one of the world's most esteemed companies. Together, Buffett and Munger have enriched millions of Berkshire shareholders, imparting invaluable lessons on business and life philosophy. Their teachings have not only guided generations of investors on the path to independent investing but also offered insights into leading a fulfilling life. We are deeply grateful for Mr. Munger's wisdom and wish Mr. Buffett many more fruitful years ahead.

Berkshire's performance in 2023 has been commendable. Its insurance units and manufacturing businesses have reported record profits. Although BNSF and BRK Energy are encountering some near-term challenges, the long-term outlook remains promising. Berkshire's equity investments have surpassed $380 billion (including KHC and OXY), despite a net selling of $24 billion in 2023. With a record cash reserve of $167 billion, generating over $6 billion in interest income annually, we think Berkshire is in its strongest position ever.

As of the end of 2023, Berkshire trades around 1.38x P/B, a valuation we believe is conservative for two primary reasons. Firstly, Berkshire's book value is poised to continue its upward trajectory fueled by earnings from its diverse array of businesses. Secondly, Berkshire employs a financing and tax structure unparalleled in corporate America. With an insurance float of $169 billion, Berkshire enjoys access to interest-free capital, while leveraging tax credits from its utility operations to minimize cash tax payments. These favorable financing terms and tax advantages position Berkshire for sustained outperformance relative to the S&P 500 over the long term. Given its favorable valuation compared to alternative market options, we maintain a significant position in Berkshire.

Bank of America (BAC):

BAC could have been the largest beneficiary of rate hikes if it had avoided mismatching durations. On the asset side, instead of earning a yield of 5% or more on cash, BAC is only earning 2.68% on its $800 billion debt securities (AFS + HTM). On the liability side, BAC is

paying 7% on its $300 billion repo book, while peers like JPM and WFC have significantly lower funding costs on repos. Consequently, BAC's net interest income (NII) increased by only 33% since the Fed raised rates, compared to the 50-70% increases seen by its peers.

Fortunately, the situation is gradually improving as BAC rotates matured securities into higher-yield instruments by approximately $10 billion per quarter. BAC's management anticipates growth in NII in the second half of 2024. Most other banks are expected to witness a drop in NII in 2024. Additionally, BAC's unrealized loss on its held-to-maturity (HTM) portfolio also narrowed in the most recent quarter as ten-year bond yields declined.

BAC's core businesses are performing well, with stable deposit trends and solid profits across various lines of business. However, BAC is investing less than Chase due to lower profits, potentially putting itself at a disadvantage over the long run.

Our investment in BAC has not yielded the desired results, as the money has not compounded over the years. While the shares remain very cheap compared to earnings, various issues have prevented BAC from trading much above its tangible book value (JPM trade at 2X TBV). Without a significant valuation re-rate, we are likely to trim our holdings over time.

Existing Holdings/Tech:

- **Tech Giants:**

Amazon (AMZN):

Under new CEO Andy Jassy, Amazon is finally getting serious around generating profit. Evident in its recent financial performance, the company has reported near-record profits ($30 billion) and cash flow ($85 billion), marking a significant turnaround from the pandemic period.

In the e-commerce sector, Amazon is leveraging its vast scale to enhance monetization. Initiatives such as the implementation of "regional networks" are driving down logistic costs, while the introduction of advertising for the Prime Video is helping to offset content expenses. Additionally, Amazon's high-margin businesses, including advertising and subscriptions, continue to grow at scale, leading to a 6% operating margin on the North American segment. Management anticipates further margin improvements.

Amazon's cloud business, AWS, has demonstrated stability in late 2023 after a year of customer optimizing spending, with revenue growing by 13% year over year in the fourth quarter. Particularly encouraging is the increase in AWS's backlog to $155.7 billion, representing a $22.7 billion rise quarter over quarter. Despite increasing competition in the AI sector, enterprises are maintaining their allegiance to AWS.

However, two long-term challenges persist for Amazon. Firstly, the company is losing market share to Azure as it offers superior AI solutions. With Azure projected to surpass AWS in size within the next 3-5 years, the question of whether Amazon can sustain its competitiveness and margins remains unanswered.

Secondly, Amazon faces formidable competition from Temu, the international counterpart of PDD. PDD has already disrupted the Chinese market by offering consumers affordable goods through direct factory shipment, posing challenges for Amazon to replicate Temu's model. To combat this, Amazon is collaborating with social platforms like Pinterest and Meta to boost internet traffic. We are closely monitoring Amazon's ability to fend off Temu's entry into the market.

Despite these challenges, we believe Amazon's stock remains undervalued. We estimate Amazon can generate over $120 billion in cash flow by 2025. A successful mitigation of competitive threats could lead to a substantial re-rating of Amazon's stock. Our position in Amazon remains largely stable in the second half of 2023.

Alphabet (GOOG):

Alphabet's near-term financial performance is commendable. The company witnessed a robust recovery in advertising revenue in 2023, alongside accelerated growth in its non-search businesses such as subscriptions and cloud services, which now contribute 43% of its total revenue. Additionally, GOOG has significantly reduced its operating costs, resulting in impressive $70 billion free cash flow in 2023. Notably, GOOG allocated $60 billion towards share repurchases.

However, despite its strong financial performance, we are unsure about the future trajectory of GOOG's core search business. With the commoditization of Large Language Models (LLM), various technology platforms and start-ups can now offer advanced search functionalities within their products. This intensifying competition directly challenges Google Search's business models rather than its AI capabilities. While the probability of Google Search being disrupted remains relatively low, we cannot dismiss this possibility entirely. Consequently, we have recently trimmed some positions for risk management purposes.

Microsoft (MSFT):

Microsoft undeniably stands out as the leader in AI infrastructure. The company's strategic foresight in early investments in OpenAI and proactive preparation of its infrastructure for AI applications has positioned it ahead of the curve. With an AI capex exceeding $50 billion, Microsoft's significant investment in AI is yielding substantial returns.

Leveraging AI, Microsoft’s two core businesses are poised for robust growth in the coming years. Microsoft Azure is projected to achieve $150 billion in revenue by 2027, while Microsoft Office is expected to surpass $100 billion concurrently. The Total Addressable Market (TAM) for Microsoft's AI-driven businesses appears virtually limitless.

In 2023, we substantially increased our position in Microsoft, with MSFT now constituting 12% of our portfolio. While Microsoft's valuation may not be considered cheap, its assured growth potential makes it a compelling investment proposition. We intend to maintain our shares in Microsoft.

- **AI Semis:**

AMD (AMD):

In 2023, we decided to trim our position in AMD for two primary reasons. Firstly, we harbored uncertainties regarding AMD's GPU potential. Secondly, we opted for risk management measures as the position had exceeded 15% of our total portfolio. In hindsight, this decision proved to be a mistake. We managed to mitigate some of the impact by retaining a portion of our holdings, with AMD still representing around 12% of our portfolio as of the end of 2023.

Recent forecasts indicate that AMD is poised to ship over $3.5 billion worth of GPUs in 2024, with potential additional shipments ranging from $6 to $10 billion in 2025. Notably, AMD's data center GPU business has grown from zero to the largest segment in AMD within three years. Meanwhile, AMD's other businesses, including PC, Datacenter CPU, and FPGA, are undergoing varying phases of recovery. Given the rapid evolution of the AI semiconductor competition landscape, we remain vigilant and prepared to adjust our position in AMD accordingly.

Nvidia (NVDA)

Nvidia's ascent in 2023 stands as one of the most remarkable in business history. Over the course of less than five quarters, the company's valuation surged nearly fivefold, creating approximately $1.6 trillion in wealth for its shareholders.

Regrettably, we missed several opportunities to increase our position in NVDA. Although we initially acquired a 5% position in early 2023, we subsequently reduced our positions. Funds from these reductions were redirected to TSM, which we deemed a "safer" investment option. As of the end of 2023, our NVDA position stands at approximately 4%.

Despite concerns over NVDA's valuation, we do not perceive it as a bubble, provided its data center GPU revenue proves to be sustainable rather than a one-time event. All indications from tech trends point in this direction, with global tech communities fervently pursuing "artificial general intelligence" (AGI), for which Nvidia remains the only variable solution. Nvidia's moat in AI is also expanding as it rapidly iterates its hardware (GPU, networking) and software (Cuda platform, simulation, enterprise AI) solutions. Nvidia could become the most prominent tech platform company ever. We have added to our shares in NVDA in 2024.

TSMC:

We once again increased our stake in TSM in the second half of 2023. The leading foundry manufacturer anticipates a 20-25% revenue increase in 2024, driven by the strength of AI-semiconductor manufacturing and potential recovery of PC and smartphone businesses. We believe that the market is still underestimating TSM's dominance in advanced nodes, positioning it to capitalize significantly on the industry upcycle.

TSMC already plays a pivotal role in enabling AI with its 3nm technology, boasting a 90% share in this space. Management has reported that nearly all AI customers are actively engaging with TSM on the 2nm node, with customer bases expanding beyond traditional players like Nvidia and AMD to include tech giants and prominent AI startups venturing into designing AI chips. Furthermore, TSM stands to benefit from significant opportunities in edge AI, as companies like Apple and Qualcomm explore edge AI to enhance their businesses.

We believe TSM is well-positioned to achieve growth rates of 15-20% in the coming years. With its comparatively modest valuation among AI-semiconductor companies, we are pleased with our position and will continue to opportunistically add to it.

Others:

Our smaller positions in Elastic Search (ESTC) and Workday (WDAY) also delivered strong performances in 2023. ESTC experienced a reacceleration in both its cloud and on-premises businesses, driven by its unique position in GenAI. Notably, ESTC is among the few software companies capable of offering critical functionalities such as "Retrievable Augmented Generation (RAG)" and "vector search," which are essential for developing GenAI applications.

Similarly, WDAY demonstrated stable growth under the leadership of new CEO Carl Eschenbach. The company is making substantial investments in its core Financials (FIN) product and international markets, which are expected to yield results in the future.

We opted to trim both positions due to significant price increases, which reduced their risk/reward profile. Our positions in RH and WUGI remain stable for the quarter.

New Holdings:

Take-Two Interactive (TTWO):

In the second half of 2023, we established a mid-size position in Take-Two Interactive (TTWO). TTWO stands out as one of the two remaining independent video game studios in the US, alongside Electronic Arts (EA), following Microsoft's acquisition of Activision Blizzard. TTWO boasts ownership of AAA video game franchises such as Grand Theft Auto (GTA), Red Dead, and NBA 2K24. Additionally, through its acquisition of Zynga in 2021, TTWO owns several top mobile games, such as Toon Blast and Match Factory.

Our bullish outlook on video game franchises is founded on two key factors. Firstly, in the last decade, the industry has shifted from unit sales (individual games) to live services (in-app purchases), with revenue from live services across top gaming companies surging from less than 40% to over 70%. Live service revenue is characterized by its stickiness and predictability. Secondly, despite technological advancements, producing AAA titles has become increasingly challenging due to factors such as high costs, talent concentration, and rising gamer expectations. This trend has led even some of the largest technology companies, such as Amazon/ByteDance, to discontinue their gaming divisions. Consequently, established game franchises have become significantly more valuable due to reduced competition.

Among the most popular gaming franchises, such as Call of Duty, FIFA, and Mario, TTWO holds the crown jewel: GTA. Take-Two's last GTA instalment, GTA 5, has sold 195 million units over its decade-long existence. Even after ten years, TTWO continues to generate an estimated $800 million annually from GTA 5 video games and GTA Online. Recently, TTWO announced the upcoming release of GTA 6 in 2025. The game's trailer amassed a staggering 93 million views within 24 hours, marking the largest video debut ever. The resurgence of "returning franchises" typically proves highly lucrative, as previous younger gamers grow more financially affluent over time. In a conservative scenario, we anticipate TTWO earning few billions from the launch of GTA 6 in 2025. Moreover, should TTWO successfully roll out GTA 6 Online, the GTA franchise alone could surpass TTWO's current valuation. Alongside GTA 6, TTWO has plans to release several other eagerly anticipated franchises and mobile games from their development pipeline.

While TTWO's near-term results may experience volatility due to potential delays in GTA and other games, such delays are unlikely to alter the long-term earning potential of TTWO's franchise. We are closely monitoring developments and remain prepared to increase our holdings if shares become more attractive.

Conclusions:

We are living in truly extraordinary times. What makes this period particularly exhilarating is the uncertainty surrounding the outcomes of scaling AI. As Jeff Bezos aptly stated in an interview, "generative AI" represents a process of discovery rather than invention, with its output being intelligence. So far, it appears that the larger the model, the greater the intelligence it can produce. Entrepreneurs and scientists are swiftly deploying ever larger LLM models to various domains such as videos, physics, and chemicals. Breakthroughs in any of these sectors, whether in material science or drug discovery, hold the potential to revolutionize our world.

The extent of GPU investments and the eventual trajectory of the current AI trend remain unknown. However, we firmly believe that each successive technology wave will surpass its predecessors in magnitude. In light of this revolution, maintaining course (or staying invested) may be the most rational long-term decision.

Presently, our portfolio is focused on AI-semiconductor companies and cloud providers, which serve as the infrastructure of the AI realm. Such AI infrastructure companies are also highly profitable; we do not view them as long-duration assets. In addition to AI, we actively research opportunities in industries witnessing infection in their business fundamentals, such as gaming, software simulation, and the home-building industry. We look forward to reporting further updates in the second half of 2024.