April 10th, 2023

Ellisville Harbour Partners 2022 Investor Letter

Dear Partners and Friends,

The stock market has remained volatile since I last wrote to you in May 2022, but we are confident that we own some terrific businesses and we are near the end of the bear market. In this letter, I will update you on the portfolio performance, provide some commentary on the current economic environment and its impact on our investment decisions, and share selective updates on our portfolio holdings. We made a new investment in a Texas oil and gas company and are excited to be returning to China after the reopening in November 2022.

Of all the headlines that affected the stock market over the past 18 months, one of the most recent was the demise of Silicon Valley Bank (SVB) in less than 48 hours. In many aspects, the SVB failure is a knock-on effect of the "white-collar recession" that we wrote about in our May 2022 letter. Technology firms and venture capitalists (VCs), fueled by low interest rates and cheap capital, rapidly expanded and are now trying to meet funding shortfalls. This is a further symptom of the supply-side crisis (the supply of capital). Naturally when startups fail to raise new capital, they rely on cash they have in the bank or else default on their loans. 50% of SVB loans were given to startups, VCs, and their founders. When they started taking money out all it once it caused an old-school school bank run. The run combined with bad corporate governance, lack of interest-rate hedging and a failure to communicate prior to an equity raise, forced the bank into insolvency.[1] SVB's failure is an isolated incident for now, but it will make the FED pause any more aggressive rate hikes.[2] Meanwhile, demand for goods and services is still growing and job growth is strong.

It's comforting that throughout all the stock market volatility, nothing has changed in the fundamentals of our portfolio companies. In fact, aside from our platform holdings, most companies had very good annual results and are doing better than ever, benefited by robust demand for their products and their pricing power. In our May 2022 letter, we outlined the steps we took to position our portfolio for two to three years of higher inflation. We downsized our platform companies, reduced margin in the portfolio, and increased our exposure to energy and industrial companies. The portfolio repositioning helped us to weather the rest of the year, but not without some downside. Had we not sold some of those

[1] See Verdad Partners research on understanding the causes of the SVB failure
[2] See Ed Yardeni's piece on how the FED "put" is back

earlier stage companies, the year's performance would have been much worse. For the full year 2022, several of our companies have continued to outperform.

2022 INVESTOR LETTER EXECUTIVE SUMMARY

- Performance for 2022 was -58% compared to -18% in S&P and -33% in Nasdaq. See third-party performance summary below.
- Our portfolio remains invested across our three investment themes: (1) old industry new technology, (2) growth in Asia, and (3) fast-growing technology.
- Inflation peaked in June 2022; some economists say the inflation problem is solved.
- Oil prices will remain higher for longer. Global energy demand/supply remains tight due to (1) China reopening, (2) recovery of jet fuel consumption, (3) tight crack spreads, (4) end of crude oil release from the Strategic Petroleum Reserve.
- China reopened in November and looks to grow 5% in 2023, which underpins our inflation outlook, higher commodity prices, and strong global demand.
- Be prepared for our portfolio to fall 50% in any given year and invest more with us over time when these downdrafts occur.
- Company updates on WMS, IBP, *Moonshots*, TSM, AOI, EOG, FANG, SE, FTCH, ROKU, JD
- Sold Tencent in early 2022, added new Asian fintech in 3Q 2022
- Sold Hyzon Motors due to management's failure to file quarterly results in a timely manner and risk of delisting.
- 2023 focus on concentrating on highest conviction ideas, more research on Chinese stocks and hydrogen/energy transition opportunities.
- Conclusion is we are near the end of this two-year bear market, which is very similar to the bear market of 2000 for technology companies.

HOLDING TO OUR INVESTMENT VALUES

We remain fully invested for the long term and convinced that now is one of the best times in 20 years to buy stocks of great companies. We are long-term investors with a multi-decade time-horizon. Our conviction is built on our core investment values that we believe will deliver outperformance over the next several decades.

Our investment values are; **Ownership, Compounding, Truth Seeking, Humility, Honesty,** and **Patience**. We try to live up to these qualities in our everyday work and we strive to invest in exceptional companies that align with these values. We welcome partners like you to trust us with capital and invest alongside us. By holding to our values, we invest in companies that are run by good and honest managers and that make products and services that are good for

the world. You won't ever see companies in our portfolio that don't align with our values, such as companies that trade in tobacco, alcohol, drugs, weapons or other predatory practices.

Ownership – Invest in businesses, not numbers on a screen.

Compounding – Invest in good ideas and let those ideas compound wealth over decades.

Humility – Recognize where we were wrong and quickly course-correct.

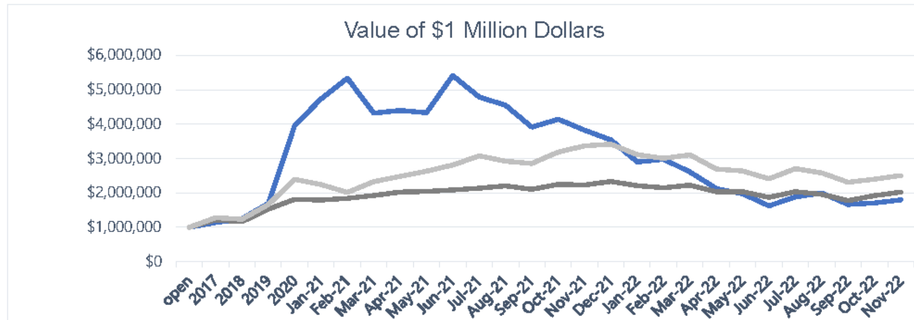
Truth Seeking – Find companies' true value, not what the market is pricing today.

Honesty – Communicate honestly to you, our partners.

Patience – Wait patiently for the right opportunity to invest and to take profits.

Here is a **summary of our returns** put together by a third-party administrator:

Ellisville Harbour Partners Historical Returns			S&P 500 Historical Returns				NASDAQ Composite Historical Returns				
Period Ending	Return	Since Inception (SI)	Period Ending	Return	SI	Relative Results S&P 500	Period Ending	Return	SI	Relative Results NASDAQ Composite	Value of $1,000,000
2017	14.1%	14.1%	2017	21.8%	21.8%	-7.7%	2017	28.2%	28.2%	-14.1%	$1,141,456
2018	9.1%	24.5%	2018	-4.4%	16.5%	13.5%	2018	-3.9%	23.3%	13.0%	$1,245,167
2019	36.1%	69.5%	2019	31.5%	53.1%	4.7%	2019	35.2%	66.7%	0.9%	$1,695,159
Performance from 2017 - 2019 was in Personal Account only. Outside clients were accepted in 2020											
2020	133.7%	296.2%	2020	18.4%	81.3%	115.3%	2020	43.6%	139.4%	90.1%	$3,962,196
2021	-9.6%	254.4%	2021	28.7%	133.4%		2021	21.4%	242.0%		
Jan-22	-18.1%	190.1%	Jan-22	-5.2%	121.3%	-13.0%	Jan-22	-9.0%	211.3%	-9.2%	$2,901,140
Feb-22	2.7%	197.8%	Feb-22	-3.0%	114.7%	5.7%	Feb-22	-3.4%	200.6%	6.1%	$2,978,245
Mar-22	-12.2%	161.4%	Mar-22	3.7%	122.7%	-15.9%	Mar-22	3.4%	210.8%	-15.6%	$2,614,290
Apr-22	-18.7%	112.6%	Apr-22	-8.7%	103.3%	-9.9%	Apr-22	-13.3%	169.6%	-5.4%	$2,126,233
May-22	-7.1%	97.5%	May-22	0.2%	103.6%	-7.3%	May-22	-2.1%	164.1%	-5.1%	$1,974,599
Jun-22	-17.6%	62.7%	Jun-22	-8.3%	86.8%	-9.3%	Jun-22	-8.7%	141.1%	-8.9%	$1,627,491
Jul-22	15.5%	88.0%	Jul-22	9.2%	104.0%	6.3%	Jul-22	12.3%	170.8%	3.2%	$1,880,192
Aug-22	6.4%	100.1%	Aug-22	-4.1%	95.7%	10.5%	Aug-22	-4.6%	158.3%	11.0%	$2,000,588
Sep-22	-16.9%	66.2%	Sep-22	-9.2%	77.7%	-7.7%	Sep-22	-10.5%	131.2%	-6.4%	$1,662,190
Oct-22	2.9%	71.1%	Oct-22	8.1%	92.1%	-5.2%	Oct-22	3.9%	140.2%	-1.0%	$1,710,736
Nov-22	5.1%	79.8%	Nov-22	5.6%	102.8%	-0.5%	Nov-22	4.4%	150.7%	0.7%	$1,797,767
Dec-22	-18.0%	47.3%	Dec-22	-5.8%	91.1%	-12.3%	Dec-22	-8.7%	128.8%	-9.3%	$1,473,484
2022	-58.4%	47.3%	2022	-18.1%	91.1%	-40.3%	2022	-33.1%	128.8%	-25.3%	



Prior to August 2020 results are from Manager's personal funds. Outside clients were accepted beginning August 2020.

Ellisville Harbour Partners LLC is a registered investment advisor. Please visit our website at https://www.ellisvilleharbourpartners.com/ for important disclosures.

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As of December 31 2022, these were the **holdings in our portfolio***:

Name	Ticker	Gross Weights (%)	Normalized Weights (%)	Theme
ADVANCED DRAINAGE SYSTEMS	WMS	27.83%	17.27%	Old Industry New Tech
Moonshots		22.05%	13.69%	Fast Growing Technology
AFRICA OIL CORP	AOI	20.51%	12.73%	Old Industry New Tech
US Energy	CEQP/FANG/EOG	20.34%	12.63%	Old Industry New Tech
JD.COM	JD	20.85%	12.94%	Asia Growth
FARFETCH LTD-CLASS A	FTCH	12.83%	7.96%	Fast Growing Technology
TAIWAN SEMICONDUCTOR-SP ADR	TSM	9.77%	6.06%	Fast Growing Technology
INSTALLED BUILDING PRODUCTS	IBP	6.59%	4.09%	Old Industry New Tech
Asia Fintench (Undisclosed)		5.74%	3.56%	Asia Growth
SEA LTD-ADR	SE	5.66%	3.51%	Asia Growth
AIR PRODUCTS & CHEMICALS INC	APD	4.26%	2.64%	Old Industry New Tech
ROKU INC	ROKU	4.06%	2.52%	Old Industry New Tech
Asia Retailer (Undisclosed)		0.64%	0.40%	Asia Growth
Cash (margin)		-61.14%		

**This table reflects the weighted average of all SMAs. Separate account weights may differ.*

The Ellisville Portfolio weathered 2022 and we are excited about the next several years, building on the strength of our core positions with some exciting new additions to the portfolio. The remainder of this letter will provide a more in-depth look at our (I) investment themes, (II) inflation update, (III) global energy update, (IV) China update, (V) team update (VI) portfolio update, (VII) conclusion.

(I) INVESTMENT THEMES

As global value investors we are very opportunistic and can invest in any geography or sector where we see the greatest opportunities for the long term. Since we started in 2020 our investment themes have **remained the same**, while we've been honing our research process and narrowing our focus on the types of companies we invest in.

"Old industry new technology" are companies in traditional industries like manufacturing or cable television disrupting their markets with new technology. Examples are drains made from recycled plastic in new automated manufacturing plants (WMS) or moving TV from cable to streaming (ROKU). These companies operate as a leader in a niche market, have valuable hard assets which leads to pricing power and competitive moats making them more resilient against higher inflation.

"**Asia growth**" companies are companies located in Asia or the West that benefit from higher growth in those emerging markets. These companies suffered in the first half of 2022 due to

the lockdowns in China causing significant slowdowns in consumer spending. We benefited by exiting almost all our Chinese holdings (including Tencent, Prosus/Naspers) except for JD.com (JD) early in 2022 and significantly downsizing our Sea Limited (SE) position in May. As Chinese equity prices continued to crater to all-time-low valuations, we started buying them back again in the summertime, adding to JD and investing in a new Chinese fintech company. Our thesis was that equity values were pricing in China returning to a closed market with negative growth. We knew that when China reopened companies like JD would do very well because there was nothing fundamentally wrong with their business model and they were providing necessary products and services to the Chinese people. So far, the equities have started to recover and the Chinese economy is poised to grow more this year than it did last year.

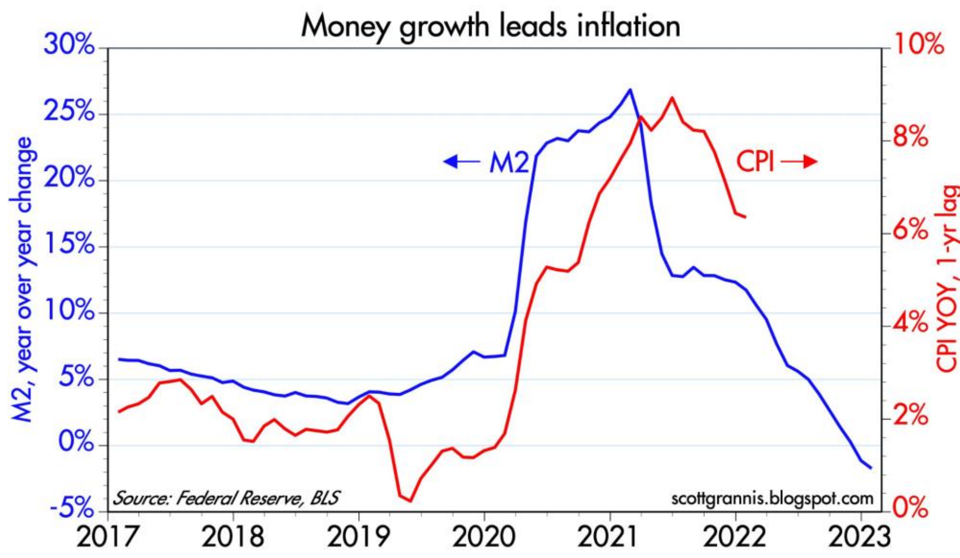
The **"fast growing technology"** theme comprises companies that benefit from rapidly changing innovation and technology exposing them to fast growing and new end-markets. Example companies are as large as Taiwan Semiconductor or as small as Quicklogic ($50 million market cap) and are innovating in 5G/Wifi 6&7, internet of things (IOT), advanced semiconductors, electric vehicles (EV), and satellites. Fast growing technology companies have significant exposure to semiconductor design and manufacturing (Synaptics, Maxlinear, Camtek) which experienced a glut in 2021 and then a short term oversupply in 2022. This was exacerbated by lower demand for chips as excess consumer spending on new technology and phones from the pandemic dried up throughout 2022. Going forward we see the chip market normalizing and the long-term trend to digitize everything continuing to grow demand for these high-end chips over the next decade.

(II) INFLATION UPDATE

Although we firmly believe the companies in our portfolio will grow and do well regardless of whether interest rates are 2% or 6%, it's important to highlight where we are in the rate cycle, as the overall stock market will sell off as the expected terminal rate increases.

In our May 2022 letter, we detailed how the rapid increase of $6 trillion (a 40% increase) in the M2 money supply by the federal government in 2020 and 2021 caused higher inflation. At that time, the FED was behind the curve, keeping the fed funds rate at only 1% while inflation was at 9%. Today, the fed funds rate has rapidly increased to 4.75%, inflation is back down below 6%, and the 10-year treasury is hovering between 3.5% and 4%. Meanwhile, M2 money supply in 2022 was negative and over the last 6 months it has fallen by 3.4%. What does this mean?

As Milton Friedman said, “Inflation is always and everywhere a monetary phenomenon”, and as the money supply falls, so has the pace of inflation. As we approach the terminal rate, the pace of rate increases has also slowed, allowing the market more time to price in these expectations. Scott Grannis, a prominent supply side economist explains inflation well in this article and the below chart (HERE):



Commercial bank reserves have been growing to new highs over the past 15 years since the financial crisis. Today there is over $2 trillion[3] parked at the FED earning 4.75% interest and not being loaned out into the economy. As a result, the demand for savings is high enough to prevent excess spending, which is slowing down inflation.

We no longer need to plan for two to three years of 10% inflation. A more likely outcome is several years of sticky inflation of around 3-4% as we work through the fallout of a global pandemic, war, supply chain crisis, and excessive government spending. The global economy is still growing (supported by higher growth in China) and the recent bank failures of SVB and just recently Credit Suisse (CS) is due to bad governance and lack of adequate risk management for their interest rate risk. Unlike 2008, this is not a worldwide systemic problem in banks. Banks remain well capitalized and very liquid.

We are comforted that throughout the 1900s the US economy grew for multiple decades with interest rates often above 5%. So, despite the continuing market volatility, this is a perfect time for us to pick up stocks of great companies at discounted prices.

[3] Federal reserve balance sheet

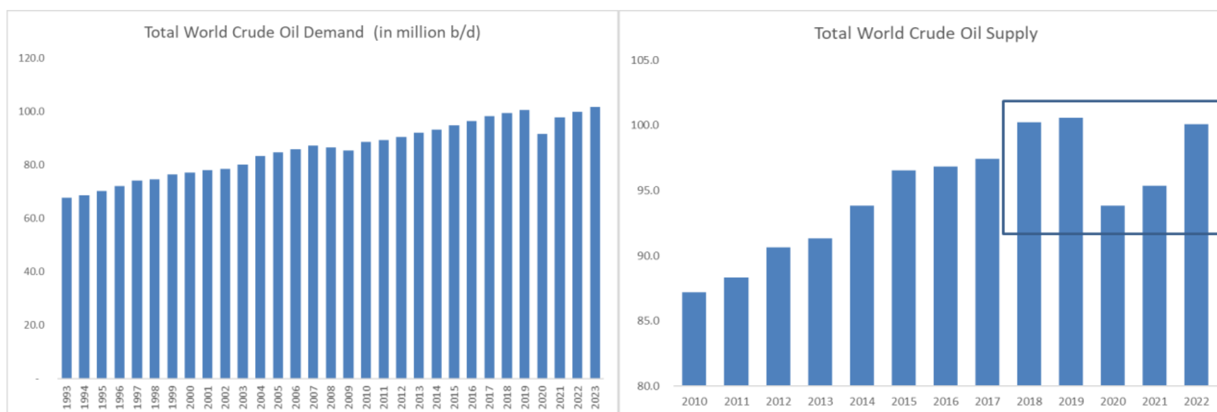
(III) GLOBAL ENERGY UPDATE

Oil prices swung wildly in 2022, increasing due to tight supplies amid the war in Ukraine that upended global crude flows, then sliding on weaker demand from China, a top importer, due to lockdowns. On a year-over-year basis, oil prices closed out 2022 with a modest gain of about 5.5% (WTI crude oil).

We believe oil prices will stay in the $70 - $100 range for a few years. We think that the following supply and demand catalysts support higher sticky oil prices for the rest of the decade:

Supply side:

On the supply side, as detailed in our 2021 Investor Letter, there was underinvestment in oil and gas exploration for almost 10 years because of capital fleeing oil and gas companies. This has caused a very tight global supply chain for oil with very few new oil findings and little new incremental production in the next decade. Furthermore, OPEC continues to cut production, to maintain stable profits for its member's economies. Meanwhile, global demand for oil increases without fail at least 1-million barrels per day each year (1mmb/day.

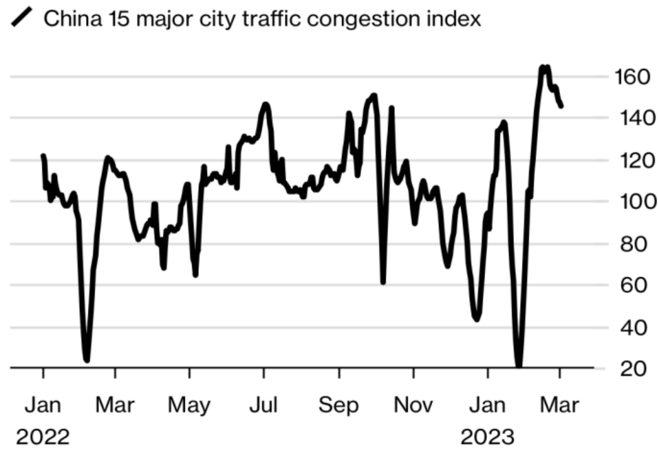


Source: Bloomberg

China re-opening:

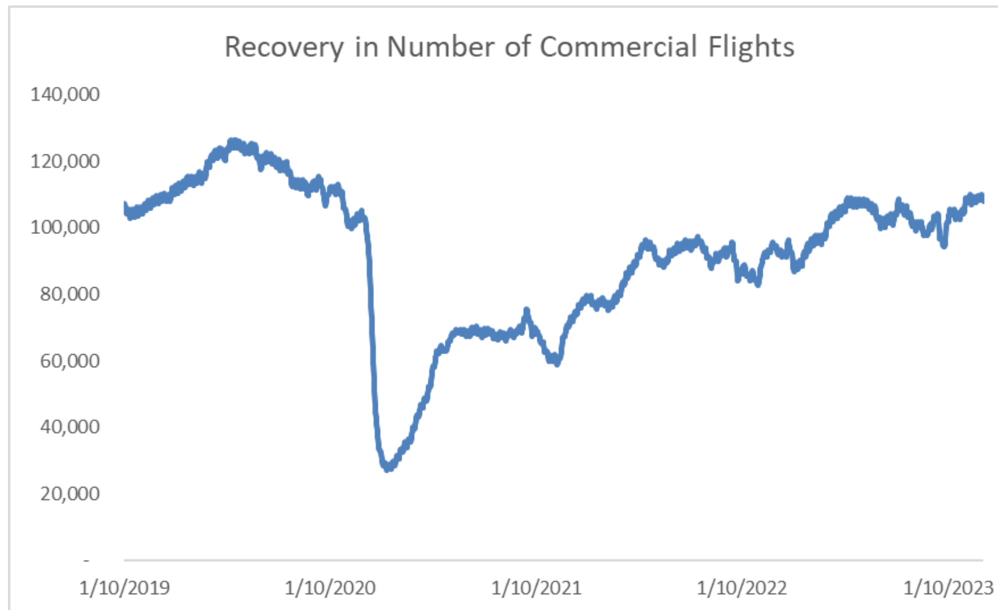
In November 2022, China moved away from zero-COVID policies. In recent weeks, China and Hong Kong have fully reopened to global travel and are inviting tourists and businesses back. Increased mobility in China incremental oil demand in 2023 by 1mmb/d[4].

[4] Reuters



Recovery of global aviation:

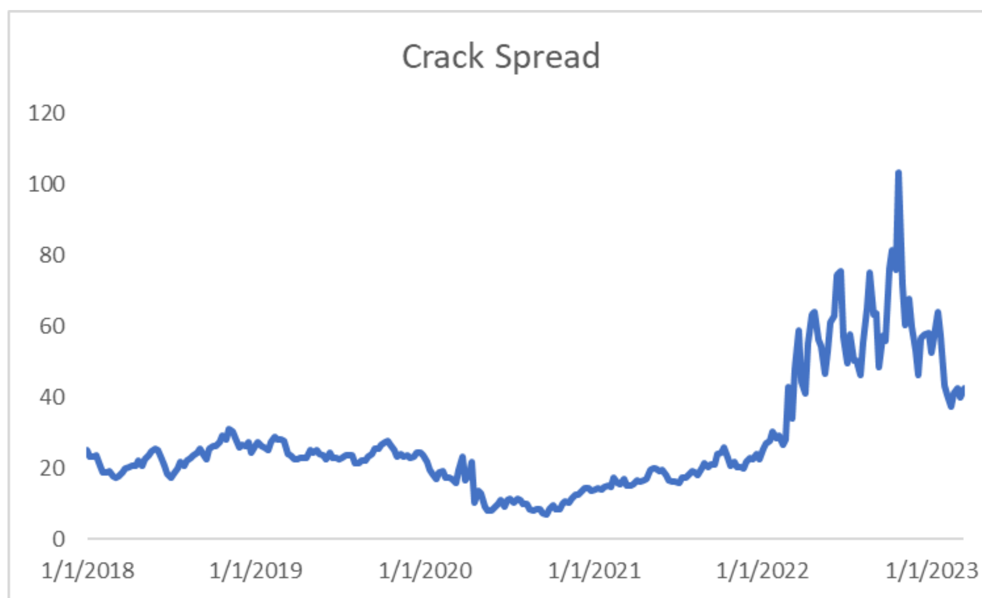
Global jet fuel consumption peaked at ~8 mmb/d in late-2019. Despite a partial recovery in 2021 and 2022, it was still running at just ~6.2 mmb/d by November last year. During the recent 4Q22 earnings calls of major flight carriers, the general tone was optimistic for an increase in demand for air travel.



Source: Bloomberg

Diesel and Gasoil tightness:

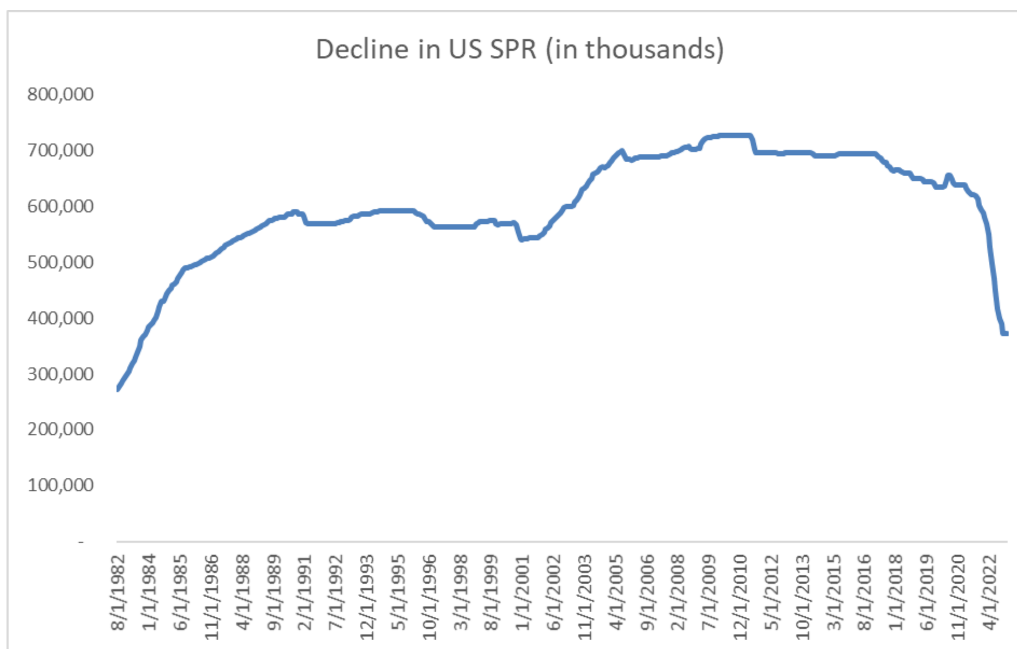
In 2022, Diesel and Gasoil crack spreads reached record highs and remain very high even by historical standards today. Both China's re-opening and the recovery in aviation are likely to drive gasoil/diesel demand higher. At the same time, gasoil supply from Russia will continue to dwindle after the EU embargo in February this year. Combined, these factors will likely keep the gasoil market tight. Given that it takes about 2.5 barrels of crude to produce 1 barrel of gasoil, a tight gasoil market combined with additional refining capacity should bode well for crude demand, supporting higher WTI crude oil prices.



Source: Bloomberg

The end of Strategic Petroleum Reserves (SPR) releases:

During 2022, an unprecedented 221 million barrels of crude oil were released from the US SPR, supplying about 610 thousand barrels per day (mb/d) of additional oil to the market. During the summer of 2022, the pace of SPR release reached well over 1 mmb/d, which ultimately helped the oil prices fall. Even during December of last year, the SPR release averaged about 480 mb/d. Earlier this year, however, the US Department of Energy announced its first auction to repurchase a small amount of oil to start refilling the SPR. We believe that this is the first sign that excessive SPR releases have come to an end, which should create a $60 ~$70 floor for oil prices.



Source: Bloomberg

Weaving all the factors mentioned above together, we believe that WTI crude oil prices could fluctuate between $65 - $100 per barrel range for the next several years. Our 40% allocation to energy companies stands to benefit greatly from the current oil price outlook but we will adjust allocations as needed if this outlook changes.

(IV) CHINA UPDATE:

China has completely reopened from the lockdowns under the zero covid policy and the economy has started to recover. Much speculation has been shared as to why they reversed so quickly. Reasons include newer variants that were less severe, greater access to vaccines and treatments, two years of stockpiling PPE and ventilators, and the reaction to country-wide protests. We firmly believe the biggest factor was the deterioration of the Chinese economy. GDP grew by only 3% (officially, but the actual number could have been much lower) in 2022 which was the slowest growth since the Asian financial crisis.

Former US Treasury Secretary and CEO of Goldman Sachs, Hank Paulson wrote in his 2016 memoir "Dealing with China'' that when asked by President Bush what kept President Hu up at night, he responded that creating 100 million jobs a year was China's biggest challenge. As a country with over 1.4 billion people, job creation continues to be one of the greatest economic challenges for China's leadership along with the aging population. Regardless of

who the leader is, ensuring the Chinese people earn enough money to enjoy a good quality of life is the priority to maintain a peaceful and stable society.

We anticipated the reopening last summer when we increased our position in JD and added a new undisclosed position, but we did not expect it to happen so quickly. The swift reopening is the best-case scenario for our Chinese stocks and for our many other holdings in the portfolio, of which a significant amount of sales come from China. Portfolio companies, JD, FTCH, TSM, AOI, SE, and several of the small cap semiconductor companies are benefiting.

In China's "Two Sessions" meeting a few weeks ago, China set an ambitious target of 5% GDP growth this year and 12 million new urban jobs. The PBOC, China's central bank, has already started stimulating the economy by cutting interest rates and injecting cash into the economy since last fall.

China's economic rebounding this year will unleash Chinese consumers on the global economy as they emerge from a two-year lockdown with excess savings and an itch to travel and spend money, supporting global economic growth.

Richard Li and Stephen Shen from OLP Capital, an outperforming investment firm in Shanghai, wrote in their December Q3 letter that the future in China is very bright and could be the only investable market for the next few years. In response to the question, "Is China investable?" they summarized the China investment opportunity this way:

> *"Unlike most major economies, China did not excessively print money during the pandemic, did not issue free handouts to consumers and businesses, and certainly isn't burdened by rising energy costs. Think for a moment – fast forward six months, while other major countries are still mired in stagflation, China may be growing at 6 – 7% with minimal inflationary pressure. Is it so hard to imagine then that China could look like the only investable market for once?"*

Finally, there has been a lot of chatter and chest pounding from both sides of the pacific over Taiwan. We see this as mostly political noise for several reasons, with **very low risk of armed conflict**:

(1) Neither China or the US have anything to gain from an armed conflict over Taiwan, which would be far more costly and devastating than the current proxy war in Ukraine.

(2) PRC has not engaged in an armed conflict since the Korean war and there are no senior generals with combat experience.

(3) Peace is at the heart of Chinese culture, and Chinese people would not be in support of a war which would send hundreds of thousands of only-child boys home in body bags to their parents and grandparents (remember the one child policy).

(4) The semiconductor supply chain in Taiwan is a global resource that cannot be disrupted without creating devastating consequences on the Chinese and US economies, far greater than the supply chain crisis created by the war in Ukraine.

(5) If any unification with Taiwan happens, it will be a relatively peaceful one. Unification would only happen in the future when China's quality of life reaches that of Taiwan's and would need to be decided by the Taiwanese people, if at all.[5]

(V) TEAM UPDATES:

In 2022, we were joined by Arya Patel and Pavan Anandani. Arya is a junior at Babson College, has completed two semesters on the Babson College Fund (BCF)'s communication services sector team and is an incoming investment banking analyst in the summer of 2023 for Stifel. Pavan finished his Master of Science in finance (MSF) at Babson last year, and previously worked as a global commodities trader at UBS in Hong Kong. Pavan also worked for the BCF for two semesters on the energy and materials sector team. We are thrilled to have both on the team.

(VI) THE ELLISVILLE HARBOUR PORTFOLIO:

Although a majority of my net worth is invested in this portfolio, our clients have so far allocated no more than 5% of their overall portfolios to this strategy. The portfolio is designed to be very long-term and aims to gain exposure to unconventional investment ideas and geographies that most other strategies overlook. As such, you should expect the portfolio to fall AT LEAST 50% in any given year, as it did last year. We hope that over several decades these investments will compound and return significant profits to you, our partners, and you will allocate more of your portfolio to us over time.

The Ellisville portfolio follows a barbell approach where on one side we invest in industrial businesses with pricing power and on the other side we invest in high growth technology businesses. This allows us to make concentrated investments in high conviction ideas while still being diversified across geographies and industries.

[5] Please reach out if you're interested in a more in-depth discussion of the Taiwan debate.

We invest in companies globally, and since we are opportunistic, we are attracted to undervalued sectors like energy and technology. We look for common attributes in every company we invest in regardless of size, sector, or location. These include:

- Founder/CEO with large equity ownership, private equity (PE) or strategic long-term shareholders
- Excellent capital allocators
- Leader in a niche market or a cost leader
- Wide business model and/or technology moat
- Growth by strategic Mergers and Acquisitions (M&A)
- Value-aligned incentives for the management such as ROIC, economic margin etc.
- New technology that lowers cost over time
- Ability to use the income statement to invest in R&D and other items.[6]

As December 2023, the portfolio is roughly invested across three themes: 33% in growth in Asia, 84% in old industry new technology and 45% in fast growing technology for a total of 160% long. There is a lot of overlap where some companies might benefit from all three themes.

We are quite pleased with the collection of superior businesses in the portfolio and we hope after reading the below updates you will be, too. By allocating funds to us, you now own some of the most exciting businesses developing cutting-edge technologies and have exposure to very niche and fast-growing markets around the world.

Advanced Drainage Systems (WMS)

Advanced Drainage Systems (WMS), an advanced manufacturing firm based in Ohio, has been our biggest holding since we started investing for outside partners in 2020. WMS manufactures storm water solutions, which include drains, septic systems, and storage tanks of all sizes and is the leading plastic recycler in North America. It's a leader in a niche market that still only has about 10% market share. When we started Ellisville in 2020 we bought WMS for $27. At year end 2022 the stock was $82, compounding 45% per year over three years.

2022 was a great year for WMS's business even though the stock has been relatively flat over the last 18 months. They grew their legacy pipe business and the infiltrator business they acquired in 2019. Revenue grew by about 30% mostly from price increases while volume was flat. This is a good example of pricing power. As commodity prices came down in the second

[6] Please reach out if you would like to learn more about this valuation methodology.

half, WMS gross margins benefitted from the decrease in input costs for resin. With the slowdown in the US housing market due to mortgage rates rising from 3 - 7% so quickly, the market has priced in negative growth for WMS in 2023. However, less than a third of WMS' business is exposed to the residential housing market and their largest markets in Florida and Texas are still growing by high single digits. Florida is their biggest market and the impact of Hurricane Ian pushed back some big projects into 2023.

The housing slowdown and hurricane in Florida caused WMS to lower their revenue guidance by about $100 million in the third quarter after recently increasing it by $100 million in the second quarter. The stock price overreacted as a result and went back down to $80 in November 2022, which created a nice entry point for some new partners that had come onboard last summer.

We are very optimistic about the future prospects of WMS and think that it is still cheap, with the market pricing in a very severe housing recession. Most of WMS' business is in commercial, industrial, agricultural, and multifamily end-markets, which are very resilient. Furthermore, the overall housing market in the US still has not recovered from the great financial crisis, with approximately 3-4 million under-supply of homes. We'll talk more about this in the IBP write-up below.

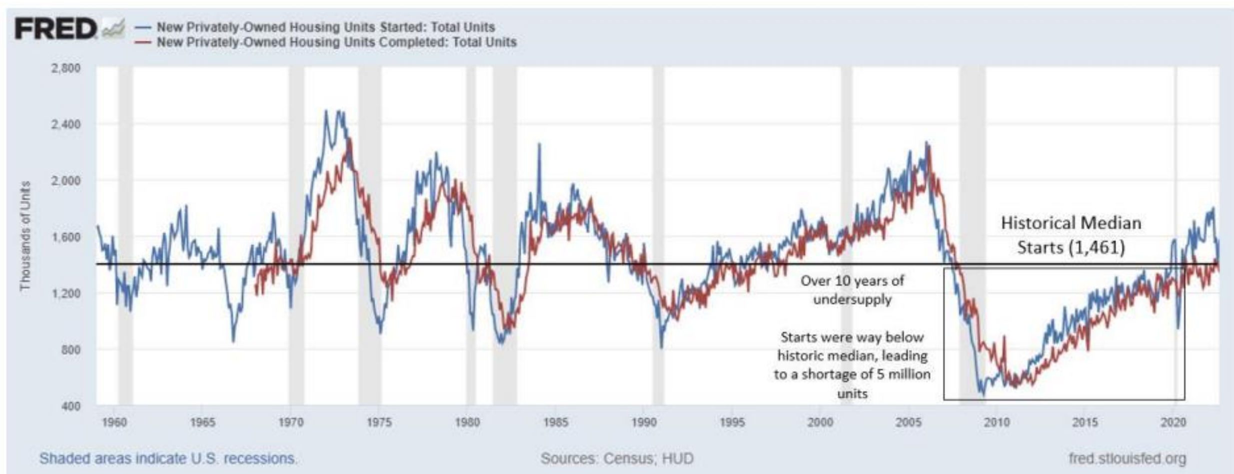
WMS has a terrific management that is laser-focused on capital allocation and making investments in new technologies that will grow market share and margins. They are only 10% market share in a very fragmented market and several times larger than their nearest competitor. Whether they invest in new R&D, new acquisitions, or buy back shares, we can trust management to continue to make great investments. This will continue to compound over the years to come.

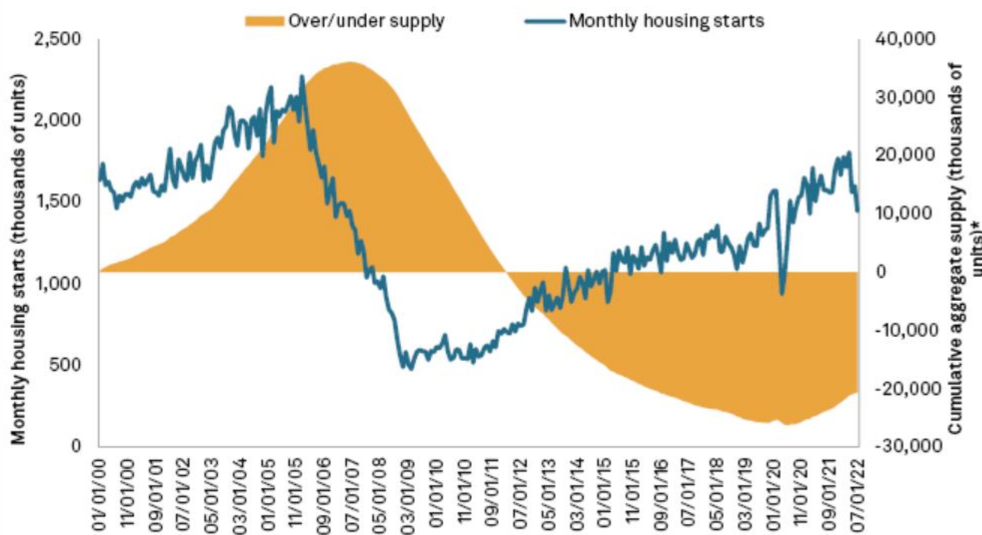
Installed Building Products (IBP)

We briefly introduced IBP in our May 2022 letter. IBP is a holding company that grows by acquiring installers of insulation branches and other complementary building products. The company has successfully acquired and integrated over 180 companies since 1999. Over the course of the last year, we gained more conviction in IBP's competitive advantage and longevity of their M&A strategy amid the looming housing slowdown.

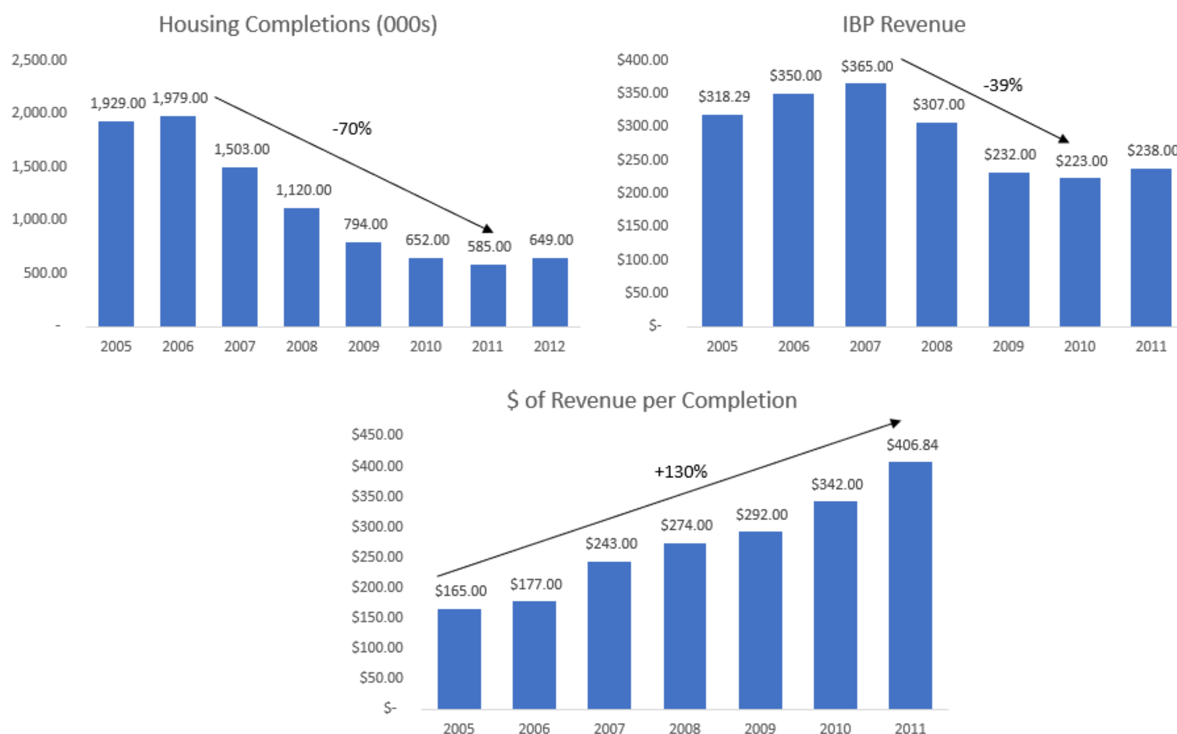
The recent increase in mortgage rates and housing prices has caused a slowdown in new housing starts, completions and transactions. However, the current housing slowdown is not as bad as the 2008 housing crisis. In 2008, there was an explosion in the subprime mortgage

market from relaxed lending requirements, and banks conducted very little due diligence before issuing mortgages. This led to a bubble that burst due to the risky long-term variable rate mortgages. However, the current increase in housing prices is due to a supply-demand mismatch and not due to excess credit disbursements from banks. Furthermore, the housing market was underbuilt after 2008 for over a decade as the housing starts remained below the long-term average. This led to a shortage of 3 to 4 million housing units in the US. This housing shortage will provide long-term tailwinds to home builders and building products installers such as IBP. Additionally, the housing demand in recent years has been driven by millennials who are entering their 30s providing support for a growing US housing market in the long term.





IBP's business model is less cyclical relative to the US residential and commercial market and more resilient to market downturns due to several factors. Firstly, IBP's insulation installation business is witnessing record backlogs. They have single-family backlogs that will last them through first half of 2023 (1H23) and their multi-family and commercial backlogs will last them through early 2024. Secondly, IBP keeps making acquisitions, which enables them to sell more products to the home builders, capturing more revenue per housing completion. During the 2008 housing crisis, housing completions declined by around 70% from the peak levels, but IBP's revenues declined only around 35-40% as they witnessed 130% growth in revenue per completion. The installation contractor industry remains highly fragmented and we expect IBP to continue making value-added acquisitions.



During the summer last year, the market was discounting a major housing crisis in IBP's stock, which we believe was oversold and we started buying around $80. Despite the housing slowdown, in 2022 IBP still grew revenue by 35.6% driven by volume growth of 5.5% and price/mix growth of over 30%. The company further posted recorded EBITDA margin with a 210 basis point (bps) improvement from the previous year. They spent $114 million on M&A and $142 million on share buybacks. The stock is up about 15% from our cost basis but we still believe IBP is significantly undervalued and we are excited to own this compounder for years to come.

Moonshots Portfolio

We own 18 small-cap technology companies recommended by the award-winning economist, author, and technology-futurist George Gilder[7], we call "Moonshots", representing approximately 20% of our portfolio (14% adj. for leverage). We do full due diligence and hand-pick the best ones from Gilder's list. A "moonshot" is a stock that could go up 10x or more. These companies operate in niche market segments where they enjoy strong competitive advantages driven by R&D programs, intellectual property, and customer relationships. The Moonshot companies capitalize on the growing trends of designing niche semiconductor chips, creating semiconductor manufacturing equipment, 5G, Connectivity, EVs, IoT, AI technology, and much more.

We hold high conviction in our Moonshot portfolio, despite the lackluster performance of those stocks the last year. That was due to macroeconomic headwinds and short-term industry slowdowns, contributing -7.5% to our annual performance. However, these companies are capitalizing on long-term economic trends and are strongly positioned within their respective end-markets. We expect these companies to have highly volatile share performance compared to the rest of our portfolio given their smaller size. As a result, we maintain small-position sizes in each company. Having 18 companies serving different end markets provides us with sufficient diversification.

We understand that these companies are smaller and earlier stage than the rest of the holdings in the Ellisville portfolio and therefore face higher-execution risk. We expect a few of these stocks to go up 10x or more, while several will have modest performance and the remaining one or two could perform badly. The Moonshot portfolio mimics a venture capital strategy, where the successful moonshots offset the average share-price performance of the rest of the Moonshot names.

A case in point is Maxar Technologies, which is a space technology company that manufactures communication & Earth observation satellites, empowering a range of commercial and government programs. Our fundamental outlook and financial analysis helped us derive an intrinsic-price estimate of $51/share. In December 2022, the company was acquired by Advent International for $53/share, which is 129% higher than their pre-acquisition market price and approximately 200% higher than their September low price. This acquisition emphasizes the asymmetric payoff of our Gilder strategy and the reason why we hold these companies despite volatile price movements.

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[7] Best selling titles include "Life after television" and "Life after google"

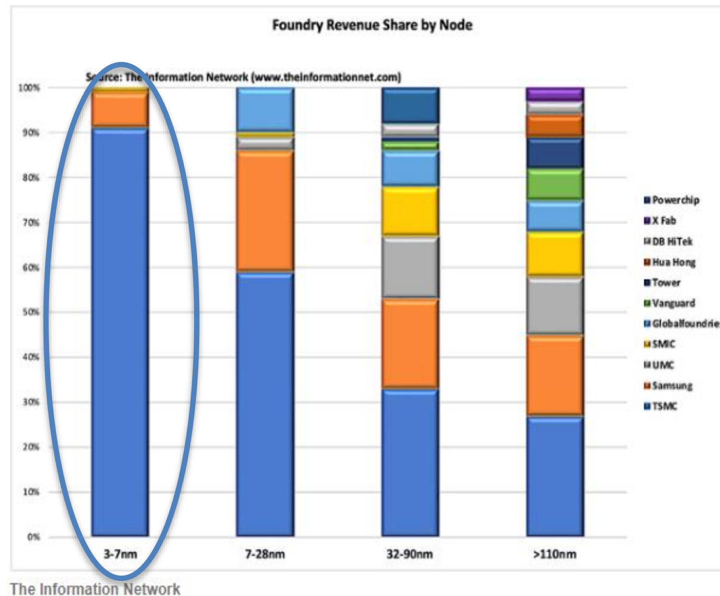
Based on our financial projections, we believe the Moonshot portfolio will grow EBITDA and cashflows at a faster rate than Russell 2000, however the portfolio trades at 10.3x EV/EBITDA compared to 13.6x EV/EBITDA for Russell 2000, which means, the Moonshot portfolio is undervalued relative to the market. We expect at least a couple of these companies to deliver moonshot returns over the coming three years, which will strongly contribute to our overall portfolio performance.

Taiwan Semiconductor Manufacturing Company (TSM)

Taiwan Semiconductor Manufacturing Company (TSMC / TSM) is a semiconductor contract manufacturing company, also called a foundry or “Fab,” founded by Dr. Morris Chang from MIT and Texas Instruments in 1987. His mission was to build a Fab that could manufacture all the world’s chips and today they have over a 50% global market share on all chips and 100% market share on the world’s most advanced chips. We discovered this company in 2010 for $10 a share and have been following its meteoric rise ever since.

The semiconductor industry is being driven by multiple long-term growth drivers such as wireless connectivity, 5G, EVs, HPC (high performance computing), AI, and more. These growth drivers have transformed the semiconductor industry from a cyclical industry to an industry with secular growth trends. Every modern technology application requires highly efficient and powerful computing resources which create a requirement for ever-smaller semiconductor chips. As the semiconductor nodes get smaller, highly complicated processes are required to manufacture them. Most of the semiconductor manufacturers lack the technological and manufacturing expertise needed to keep up with the pace of innovation and, as a result, they struggle to make smaller nodes. As the semiconductor nodes get smaller, the number of capable manufacturers decreases.

The industry is currently using 5nm and 7nm semiconductor nodes which are manufactured by only three companies, out of which TSMC commands over 90% market share. The company is currently working on launching 3nm, 3Enm, and 2nm semiconductor nodes in the coming years, which will make it even more difficult for the other two competitors to keep pace with the innovation. Most of the devices that we use daily, such as smart phones and watches, cars, manufacturing equipment, planes etc. are powered by chips manufactured by TSMC. They enjoy almost a monopoly power in the market and we believe that their competitive advantage will only strengthen over the coming years. They are expanding their manufacturing footprint to the US which will help them better satisfy their customer demands and negate any geopolitical tensions.



The Information Network

Over the past two decades, the company has compounded revenue as well as free cash flow (FCF) at 15% while maintaining an average ROIC of 27%. Such high growth was driven by an increase in market share, coupled with margin expansion that was driven by operating leverage. We forecast that the company will compound revenue and free cash flow at similar rates over the coming decade, driven by strong end-market growth and strengthening competitive advantage.

The semiconductor industry is going through short-term headwinds, which was the primary reason for the stock's negative performance last year. The current macroeconomic headwinds have led to TSMC's market capitalization declining by 54% in a year, making the company trade at 10-year-low valuation multiples from a P/E, EV/EBITDA and FCF/share. Today TSM's stock price is incredibly cheap. Despite the negative stock price performance, TSMC recorded 43% revenue growth and 72% free cash flow growth while posting a record 50% operating margin. We believe that TSMC is stronger than ever and the company is proactively making investments to widen their competitive moat, positioning them to capture an even greater share of the digitalization of the economy.

Finally, we see the risk of a military conflict with China over Taiwan as very low due to the reasons above. TSMC fabs are more strategically important to both China and the US than the old fields in Saudi Arabia. Therefore, it's in both countries best interests to keep the fabs running at full capacity.

Africa Oil Corp (AOI.TO)

Africa Oil is a Canadian-listed, holding company that owns investments in several African oil and gas projects in Nigeria, Kenya, Namibia, South Africa, and Guyana. It is run by Keith Hill and the Lundin family and has a long-term approach to allocating capital in the energy markets. A write-up can be found in our 2021 Investor Letter.

2022 was a great year for Africa oil. The stock price increased 39% and also added a dividend and a share buyback. In Feb 2022, they made a very large light oil and gas discovery in the Venus well, located offshore Namibia and drilled by Total Energy. Venus should finish an appraisal well program this year which will lead to either a large farm-out or divestment as well as a cash windfall for us as early investors. The Kenya development project farm-out, the appraisal well program in South Africa, and new PSC signed in Guyana are not getting any value in the stock price. The stock trades at just 5x FCF generated by the Nigeria-producing asset, which provides ample dividends and buybacks at $80 Brent.

Since our investment in Africa Oil in March 2021, the stock has compounded at 25% per year, which does not include the new 2.5% dividend.

Texas oil and gas companies (CEQP, EOG, FANG)

Our other energy holdings are grouped together in three excellent Texas-based companies: CEQP, EOG, and FANG. EOG and FANG are upstream exploration and production (E&P) companies that drill for and produce oil and gas. CEQP is a midstream company that compresses and transports oil and gas through pipelines.

The US oil and gas industry has gone through a transformational change over the last two decades. E&Ps have been investing shareholder's money in production growth and technology that lowers production costs. Now, those investments are bearing fruit. In 2022, E&P companies paid down $150 billion in debt and paid out $80 billion in buybacks and dividends. FCF per share turned positive for the first time in 20 years, which makes the whole industry very attractive as an investment. However, production has only grown a meager 5.6% in 2022. That is because most energy companies committed to returning more than 50% of FCF to shareholders last year after a decade of negative returns. The capital return commitment is supported by a higher stable oil price, which we anticipate staying in the $80 range for the foreseeable future.

While oil production is strong, the producers compete on costs. There is also significant upside in natural gas production in Texas because shale producers are not flaring the gas but

instead are sending it in pipelines to end markets on the Gulf Coast. Furthermore, there are several new LNG terminals scheduled to be built over the next 10 years, which allows CEQP, FANG and EOG to sell their gas at higher prices to Europe and Asia. We've identified what we believe are the lowest-cost operators with the best technology and management teams.

Crestwood Equity Partners LLP (CEQP):

CEQP is a Master Limited Partnership (MLP) of pipelines and processing facilities that transport oil and gas across the Bakken (North Dakoda), Powder River (Colorado), and Permian (Texas) basins. It is run by former First Reserve executives, an award-winning private equity firm. CEQP grows by acquisition while paying out most of its FCF as a 10% dividend. We picked CEQP up during the pandemic for $8 and since then it has returned 3x, not including the dividend. It provides stability to the portfolio and rarely trades down; however, we have been disappointed that it hasn't appreciated more over the last two years. MLPs tend to pay out most of the FCF in dividends instead of investing in growth. Therefore, we will be moving more weight into EOG and FANG going forward.

EOG Resources (EOG):

EOG Resources is by most measures the best E&P company in the lower 48. We like EOG as they still are explorers at heart and commit a significant capex budget towards exploration every year. In the last two years they made huge gas discoveries in the Utica (Ohio) and El Dorado (Texas) shale basins.

EOG's business strategy is to maximize the rate of return on investment of capital by controlling operating and capital costs and maximizing reserve recoveries. EOG increases their production profile (sometimes called “well inventory”) by systematically developing the reserve acreage and putting those wells on stream. At the same time, they are committed to lowering operating costs each year by at least 5%. EOG has a 10-year inventory of wells that achieve a 30% return at $40 WTI and $S2.50 gas, well below today's prices.

EOG had a fantastic 2022 on the back of higher oil and natural gas prices. EOG delivered record FCF of $7.6 billion during the year, returning $5.27 billion to shareholders in buybacks and dividends. EOG went net debt negative in 2022.

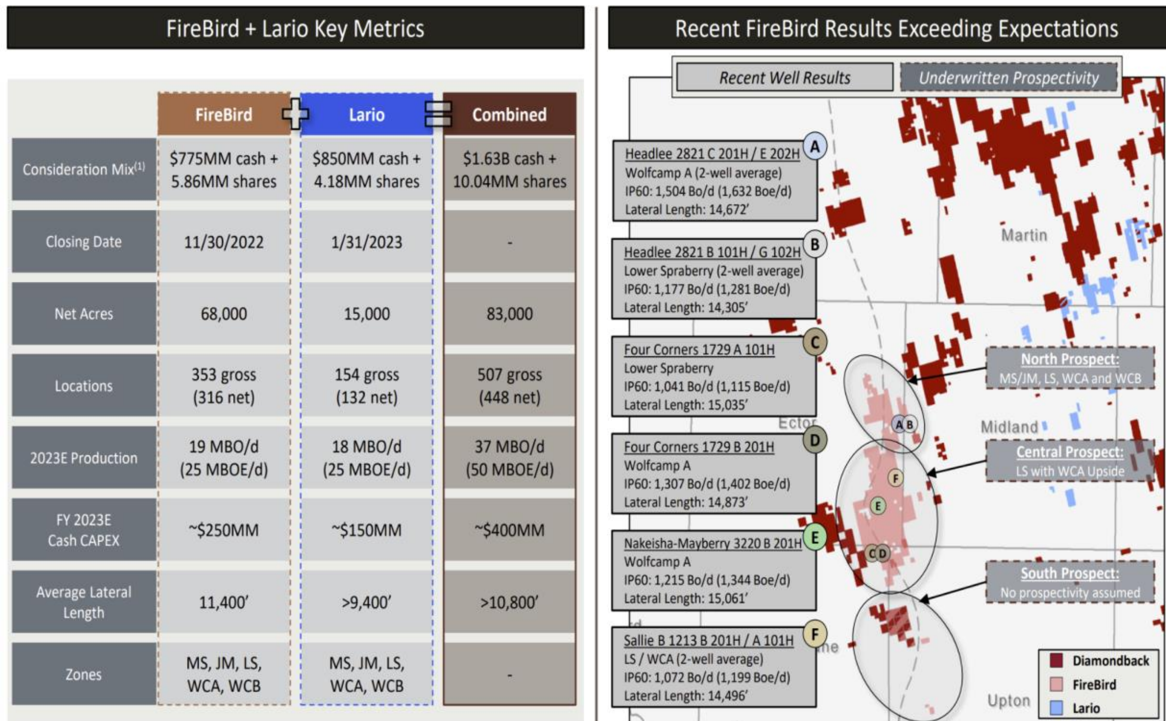
Diamondback Energy (FANG):

FANG is another E&P upstream company with all its acreage in the Midland and Delaware basins in Texas, which by some measurements is currently the most profitable acreage in the world. Compared to EOG, FANG is smaller, more focused and delivers rapid growth based on M&A, not lengthy exploration programs. It's a new addition to the portfolio after following it for about 5 years. FANG was founded by energy veteran Travis Rice, who's worked in the energy industry for 37 years, previously at Apache and Marathon, and whose family has been based in Midland for over 100 years. Founded in 2007, FANG grew quickly by rapidly acquiring large oil and gas acreage.[8] Since they went public in 2014, the stock has returned almost 10x, not including dividends. We started buying this stock because we see them growing much faster than EOG in the coming years due to their aggressive M&A strategy.

While most producers are capping production growth to keep capex low at less than 5% including EOG, FANG expects to grow production by 17% this year due to two fantastic acquisitions it made last year. Diamondback acquired 83k net acres for $1.63 billion in cash and 10 million shares, and announced a sale of non-core assets for $1 billion in cash in order not to deplete their cash position. The new acreage is adjacent to current rigs and can tie into existing drilling and fracking schedules which increases production at an all-in lower cost. There is a tremendous amount of planning in the two years leading up to drilling and completion activities; each day costs hundreds of thousands of dollars for "rig" and "frac" crews. The most recent acquisitions bolt on nicely and does not add any incremental rigs to the drilling schedule, which will pay off in cash savings over the next two years.

[8] Reserve growth grew by an average of 47% a year since 2014 IPO. HERE

Fang acquisitions of FireBird and Lario acreage with costs and map:



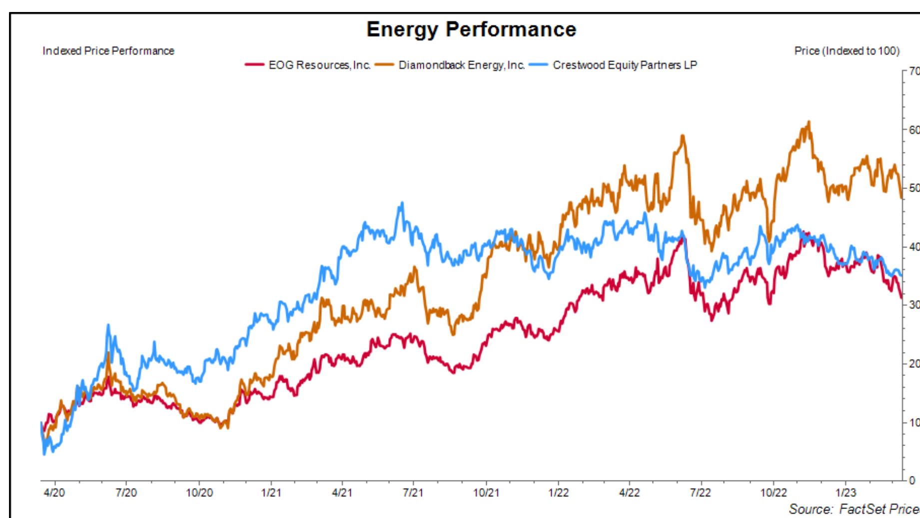
In September 2022, we visited over 20 energy companies in Texas and had the opportunity to ask the CEO of FANG where he sees the company and the oil patch going over the next decade. We were excited when he described his futuristic vision of a well pad with only one person operating autonomous rigs and frac crews all from an offsite truck powered by solar energy. We then visited a state-of-the-art drilling rig where they had replaced several roughnecks who cost ~$2k per day with a robotic arm called an "iron roughneck" that can remotely operate extremely heavy steel casings and drill bits.

Picture of iron roughneck at FANG rig September 2022:

This is just one example of the many investments in technology that FANG has made over the years that continue to lower their operating costs and offset the rise of inflation from service providers.

With the existing production, ongoing M&A, and continuing cost reductions, FANG has at least 90% upside to its current stock price. We are still building a full position but are very excited that the current dividend yield is 8.5% and management is committed to returning 65% of FCF to shareholders in more buybacks and dividends.

Relative stock performance of EOG, FANG and CEQP since 2020:



Platform Companies

Platform companies are companies like Amazon and JD.com, or the Apple App store, that have a central App or website which serves multiple end markets. These multi-sided markets interact with each other over a platform and they earn commissions, or "take rates," along with other fees. As the number of users on the platform grows, these businesses can sell their own products directly (first party "1P") at higher margins. Offering more 1P products and services attracts more buyers to the platform, which in turn attracts more sellers, creating an expanding "flywheel" effect that widens the defensible moat around the business. The more users on the platform, the more valuable the platform becomes. Below we highlight the three new platform companies we have been investing in since 2020:

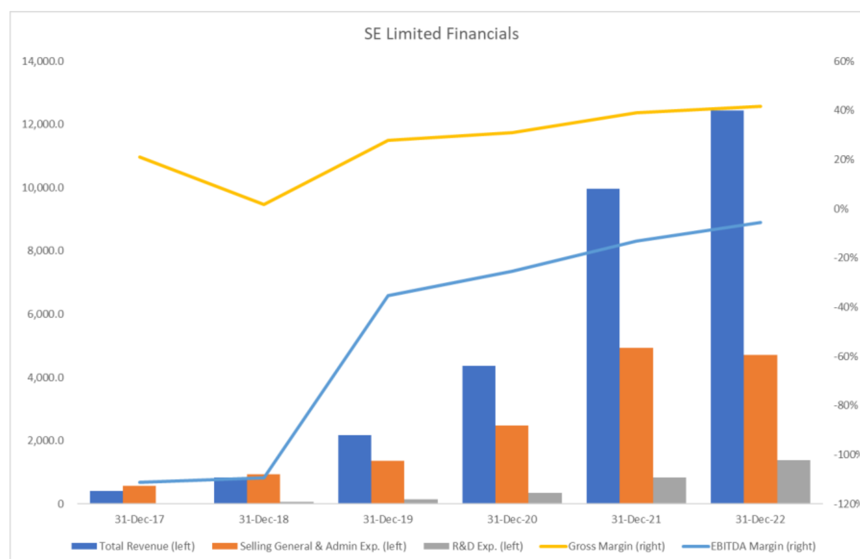
Sea Limited (SE)

Sea limited is one of the most exciting technology companies in Southeast Asia (SEA), headquartered in Singapore. Its founder, Forrist Li, controls the company and Tencent (one of our favorite Chinese technology companies) is a 18.7% shareholder. SE has operations throughout SEA and, more recently, in Brazil. Sea operates three businesses: (1) Shopee, an ecommerce platform like Amazon, (2) Garena, a mobile game producer similar to Tencent, and (3) Sea Money, a mobile wallet and banking app, similar to wechat or alipay.

We've been invested in SE since mid-2020 and have watched the company evolve from an earlier-stage high-growth company with two years of triple-digit growth during the pandemic to a company that has started to mature and focus on profitability.

The key opportunity with SE is its huge total addressable market (TAM) that is forecasted to be $210 billion by 2025 in SEA.[9] Ecommerce is still relatively underpenetrated with just 20% of sales in most SEA countries compared to 47% in China. SE's Shopee has done an amazing job since launching in 2015, growing their market share to become the leading ecommerce platform in SEA and Taiwan. Their focus is *"the transformative power of technology to connect buyers and sellers within one community defined by three key attributes – Simple, Happy, and Together."*[10]

2022 was a landmark year for Shopee as they continued to grow their revenue 42% to $7.3 billion. Adjusted EBITDA turned positive in the 4th quarter for the first time since their IPO in 2017 to $330 million, which they achieved by significantly lowering their COGS, S&M, and R&D expenses, helping to increase their margins. We are really pleased by this because if they can continue to achieve that type of revenue growth without needing to grow their sales and marketing by a higher amount, then they will start generating free cash flow earlier than we had originally anticipated. Below is a chart of SE's group level financials since the IPO.



Garena continues to deliver FCF to the business but it has shrunk significantly from the highs during 2020 and 2021, when more people were at home playing video games. However, we anticipated this, and much of our expected value for SE comes from Shopee, not Garena.

[9] https://www.statista.com/statistics/647645/southeast-asia-ecommerce-market-size-country/
[10] https://www.sea.com/products/shopee

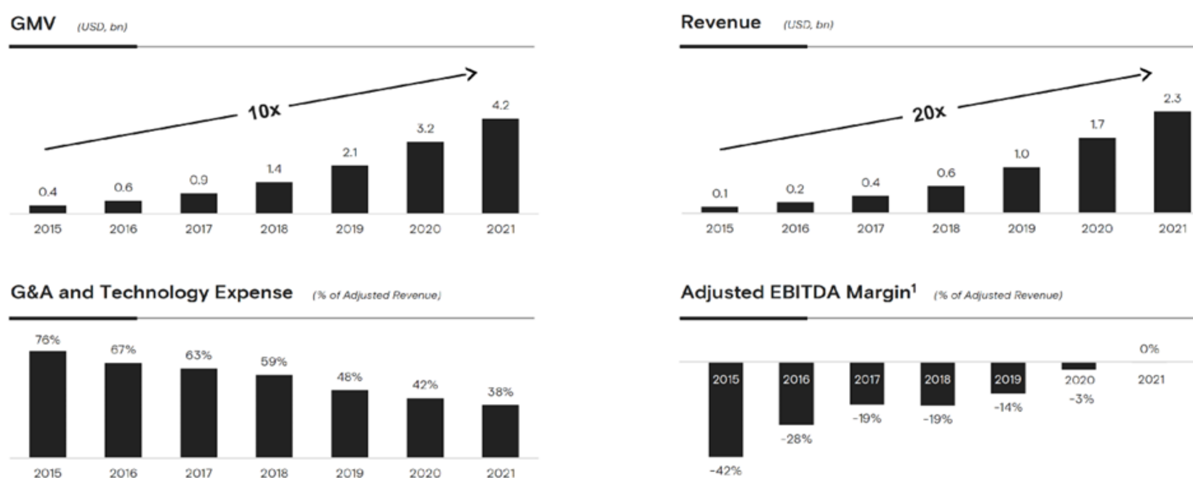
Finally, we are very excited by the rapid growth in Sea Money, which increased revenue by 92% last year to $1.2 billion with a much smaller loss than the year earlier. With a long runway for growth in a new market, Sea Money could deliver significant cash flow in the future.

SE stock fell about 70% in 2022 as their revenue growth slowed and the sentiment around growth stocks deteriorated. We highlighted in our May letter why we thought it was prudent to sell half of this position. Since this year, the stock has surged back 60%, approaching our cost basis of $100. We will be patient with SE and only add more until we are confident it can generate FCF per share well into the next decade.

Farfetch (FTCH)

Farfetch is the leading online marketplace platform, similar to Amazon, for luxury fashion and beauty, with a TAM of $400 billion growing to $500 billion by 2030. Farfetch was founded in 2008 by Jose Neves, a tech entrepreneur with a vision to build an online marketplace for luxury. Today, the Farfetch marketplace has over 4 million active users with an average order value (AOV) of $800. After Farfetch announced their partial acquisition of Richmont's online marketplace, Yoox-Net-a-Porter, they eliminated any close competition and now lead by three measures: (1) number of users, (2) brands on the platform, (3) and AOV. Farfetch has built the leading platform with the best technology, global reach, and logistics. As it continues to grow at scale, it should be FCF positive next year and compound FCF per share for the next decade.

Since 2015, Gross Merchandise Value (GMV) has grown by 10x, revenue has grown by 20x, G&A and technology expense has reduced as a % of revenue by 40% and EBITDA margin has gone from -40% to break even. The below chart illustrates these improvements:



Revenue in 2021 was about $3 billion with an "adjusted" EBITDA margin of 1%, which is about break even on a FCF basis.

The stock is currently at an all-time low of around $4 per share. This is about a $1.5 billion market cap, or less than 0.6x price to 2022 sales. Russia and China were their 2nd and 3rd-largest revenue segments prior to 2022, yet sales still grew in 2022 by about 10% even when Russia went to zero and China shrank significantly. With China reopening this year, we believe FTCH will grow revenue by 20% this year, and break even by year-end, delivering positive free cash flow in the future.

There are many things to like about this company:(1) it's the leading player in a niche market, (2) it has a strong global logistics network, (3) it has multiple "free" options, (3) it has a controlling founder with aligned incentives, (4) it has upside in China. However, management needs to show us that they can deliver return on investment in all these initiatives without spending too much more shareholder money.

We've been invested in FTCH since 2020 and rode it up 5x and back down to an all-time low. We sold some of our position in May last year and started buying some back last fall when the price fell below $8. It is a bigger and stronger company today, but we need to wait and see if management can deliver on their promises before making it a larger position.

Roku Inc. (ROKU)

Roku is a Connected TV (CTV) company that operates in both the hardware and software aspects of the TV ecosystem. Founded by Anthony Wood in 2008 as a hardware company and with an initial investment from Netflix, it has grown into the largest market share of CTVs in the US, Canada, and Mexico with a 38% market share in the US CTV market, which is more than the combined market share of the second and the third largest CTV player. Roku continues to benefit from the shift from traditional TV to CTV. Roku will be a major benefactor of $70 billion in traditional cable ad spending that has yet to shift to CTV. In Q4, the total hours watched on traditional TV in the US fell 5% YoY, while streaming hours on the Roku platform grew 23% YoY. Roku's Operating System (OS) licensing business has high customer stickiness, as it is very hard for a TV manufacturer to switch to another OS. It is very difficult to build a new TV OS franchise as it requires an enormous amount of scale and upfront investment.

The ad market slowed down last year, which in turn slowed down Roku's revenue growth rates from over 50% to just 13%. As a result, the stock price fell 75% last year, a total of around 90% from their highs in 2021. The company was not able to cut costs, which led to

operating losses and negative margins. The overall ad market remains slow but there are positive signs in certain segments that include restaurants, travel, and consumer packaged goods. As the macroeconomic environment improves, we believe the ad spending will increase and Roku will benefit from share gains and the secular runway of growth. The management has further become more disciplined with their investments as the OPEX growth is forecasted to decelerate from 40% in 1Q23 to single digit by 4Q23, leading to positive EBITDA in 2024.

We do have some concerns about ROKU going forward in 2023. Firstly, the company has been focusing on entering the hardware market with their expansion in smart home products including security cameras and doorbells, competing with Amazon’s Ring and Google’s Nest. Anthony Wood thinks hardware is a profitable business for them and will add to their competitive moat driving more users to the Roku platform. We think taking on Amazon and Google in another battle in a different segment is a big risk. However, if Roku can make these smart home products at lower costs and with better user experience (UX), then it might add more users to the platform making it more valuable.

Secondly, Roku recently announced that they will launch Roku-branded TVs which will be designed and made by Roku. These TVs will complement the Roku TV licensing program that they already have and they will sell at low margins in order to capture new users. We aren’t convinced that investing in manufacturing TVs is a great use of capital, but we are willing to give Anthony some time to prove us wrong.

Finally, we just learned that 26% of Roku’s cash is kept at SVB, which poses a risk as the company will require the cash balance to finance the investments in the future. The FED’s guarantee of SVB deposits should mitigate this risk.

We aren't pleased with the lackluster performance last year and some of the new investments in hardware, but we were able to cut this position in half earlier in May 2022 when Roku was over $100 a share. New partners joining have the benefit of acquiring these shares at much lower prices.

JD.com (JD)

JD.com is a Chinese e-commerce platform giant whose most comparable western counterpart is Amazon. JD is known to utilize technology to control the whole supply chain, obsessing over quality and experience for the customer. JD’s fulfillment model owns and operates highly technical logistics centers filled with robots offering same-day deliveries to

every province in China. JD differs from Alibaba's platform business which includes third party auctions and outsources a lot of its logistics.

JD's largest business is JD Retail, which is the ecommerce platform as well as retail stores as big as supermarkets and as small as community shops. JD logistics (JDL) is similar to UPS and owns and operates 1,500 warehouses over 30 million square meters. JDL also owns its own airline. JD Health is similar to a CVS. JD Industrials serves the "intelligent supply chain" delivering supplies to enterprise customers in 100,000 factories and 16,000 construction sites. JD Property owns and manages all the property and recently spun out a REIT of three logistic parks of 350,000 sq. meters onto the Shanghai stock exchange which raised RMB 1.7 billion.

JD has grown to be one of the biggest companies in China over the last 20 years with a 2022 revenue of around $160 billion. That's nearly 1% of China's GDP. The market cap today is only $70 billion which is less than 0.5x revenue. JD has $31 billion in cash and only $6 billion in debt. Although the market was disappointed with last year's revenue growth of only 7%, JD has been growing revenues at 24% annualized since 2017. This past year during the sharp downturn in the Chinese economy, JDL grew revenues by 75%. While the past has been focused on growth and market share, JD is now focusing on profitability. Last year, JD reported $4 billion in net profit, its highest ever, and $5 billion in FCF. We expect FCF to grow from now on as JD focuses on selling off non-core assets in SE Asia to shore up its competitive moat at home in China, growing its logistics business and delivering returns to shareholders.

Hydrogen (Air Products and Chemicals and Hyzon)

In our 2021 Investor Letter, we introduced our energy thesis: higher oil gas and diesel prices for the next few years will allow hydrogen to compete with long-haul diesel trucking. We have been investing in hydrogen through Air Products and Chemicals (APD), which is the largest producer of hydrogen globally, and Hyzon Motors Inc (HYZN), which is a small start-up that already has hydrogen fuel cell trucks on the road.

APD has a market cap of $63 billion and 2022 revenues of $12.7 billion. They enjoy oligopoly status as a global industrial gas company. There are three oligopolies in this space, the other two being Air Liquide and Linde. Historically, the legacy gas business grew at the same rate as global GDP and was incredibly resilient throughout 2020, '21 and '22, and EPS grew 27%. They raised prices to keep up with inflation and increased their dividend by 20%.

Since 2018, APD has invested $11.6 billion of their $37 billion growth plan to invest in hydrogen and renewable projects. In May of last year, we doubled our investment in APD and

while the stock didn't go down as significantly as our platform names, it increased 1% in 2022 and only increased 12.8% since 2020.

APD stock only has about 15% left to grow into our fair value, and we won't expect to see any return on the new hydrogen projects for several years. We are analyzing a few smaller companies in the hydrogen space that meet the higher return profile of Ellisville. Stay tuned for updates later this year on those new ideas.

Hyzon (HYZN):

Unfortunately, our promising hydrogen strategy was tempered by the poor performance of **HYZN** stock. The stock had a terrible year in 2022. It suffered from multiple short-sale reports claiming that the company is a fraud and failed to report its quarterly financials for two quarters in a row due to some accounting mistakes in their China office. This resulted in their CEO being fired. Although they have a good truck product and solid engineering, their management was not up to the job of running a public company. We sold the stock in May 2022 for a 60% loss. We learned a key lessons from this experience:

- With startup investing, management team with a demonstrable track record is crucial.
- When investing in China related companies, beware of fishy accounting.
- Ideas recommended by friends sometimes require even more due diligence. Pay attention to these friends' incentives.
- Stay away from SPACS that don't have a proven business model with cash flow, regardless of how good the technology is.

(VII) CONCLUSION

Last year was our first full year as an investment firm and it was a tough year for performance. The recent bear market has been similar to the tech bubble crash in 2000. As it did in 2000, it might take a few years to recover. The current status of SE, ROKU, and FTCH echoes that of Amazon in 2000. The chart below shows how Amazon stock was down -86% peak to trough from 2000-2001 and its recovery was 179%. The total 5-year performance for Amazon was still -43%. From January 2003 to its peak in 2021, Amazon returned 5,500%. Samantha McLemore,

a famous co-portfolio manager with Bill Miller, who was an early investor in Amazon, wrote about the similarity in her 4Q2022 letter (see page 32 below for the illustrative chart):

"We are nearing the 2-year mark for the bear market in "innovation stocks." The early-2000's tech bear market lasted slightly over 2 years (a little closer to 3 for securities that peaked the earliest). We've nearly matched that worst-case scenario in duration. Since markets react much more quickly these days, the comparison is even more striking.

The source of the late-90's bubble was the technology and telecom sectors. On an annual basis, the tech sector lost 73% over 3 years before recovering. The current bubble centered on innovation stocks. ARK's 2021-2022 performance of -75% almost exactly matches the tech sector's losses in the early 2000s."[11]

We agree with her analysis, and although we are still licking our wounds from some big losses, we are more excited than ever about the opportunities for our portfolio companies in the future. If this analysis is correct, now is a great time for new investors to open accounts with us and buy stocks of great companies.

As we wrote in our May 2022 letter, we believe the huge growth bubble currently deflating is healthy in the long run. Companies like the ones we invest in will come out of this bear market more efficient and better run.

We are grateful to you, our partners, for your investment and your patience. Although no one can predict future performance, we can learn from past bear markets and say that we are probably closer to the end of this bear market than the beginning of one. Stocks go up in the long run, not down. We believe we are making the right decisions for the right reasons and we hope you will invite others to join us.

Let us know if you find these letters useful and what other topics you'd like us to write about. We'd love to hear from you. Don't hesitate to give us a call or email with your questions and investment Ideas.

Sincerely,

George

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[11] See chart on next page: https://millervalue.com/opportunity-equity-4q2022-commentary/

	2000	2001	2002	2003	2004	Peak-to Trough Decline	Recovery	Total 5 Year Performance
Amazon	-80%	-30%	75%	179%	-16%	-86%	179%	-43%
Yahoo	-86%	-41%	-8%	175%	67%	-92%	359%	-65%
Time-Warner/AOL	-54%	3%	-59%	37%	8%	-81%	48%	-71%
Cisco	-29%	-52%	-28%	85%	-20%	-75%	85%	-64%
Gateway	-75%	-55%	-61%	47%	31%	-96%	93%	-92%
Dell	-66%	56%	-2%	27%	24%	-48%	57%	-18%
Average	-65%	-20%	-14%	92%	16%	-80%	137%	-59%
Median	-71%	-36%	-18%	66%	16%	-83%	89%	-64%
SPX	-9%	-12%	-22%	29%	11%	-38%	43%	-11%
Consumer Discretionary	-20%	3%	-24%	37%	13%	-37%	55%	-3%
Tech	-41%	-28%	-37%	47%	3%	-73%	51%	-59%

Source: Bloomberg, 1stock1.com

	2021	2022	Peak-to Trough Decline
Shopify	22%	-75%	-75%
Roku	-31%	-82%	-88%
Peloton	-76%	-78%	-95%
Farfetch	-48%	-86%	-93%
Coinbase	1%	-86%	-86%
Zoom	-45%	-63%	-80%
Snowflake	20%	-58%	-58%
Docusign	-31%	-64%	-64%
Carvana	-3%	-98%	-98%
Doordash	4%	-67%	-67%
Wayfair	-16%	-83%	-83%
Average	-18%	-76%	-81%
Median	-16%	-78%	-83%
SPX	29%	-18%	-18%
Consumer Discretionary	24%	-37%	-37%
Tech	35%	-28%	-28%
ARK Innovation ETF	-23%	-67%	-75%

Source: Bloomberg

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Reference to “partners” throughout the letter means “clients or investors” even though this is not a legal partnership. The term "partners" is intended to convey the importance of aligned incentives between manager and investor. We view this business as a partnership, as we are all owners of the same stocks together.

This commentary includes forward-looking statements and opinions, which may not come to pass. Information is at a point in time and may be subject to change without notice. Information provided on various holdings is based on the Advisor's research. Information may be obtained from third parties, which are believed to be reliable, but not independently audited by the Advisor.

The use of margin includes the following risks:

1. You can lose more funds than you deposit in the margin account.
2. The firm can force the sale of securities or other assets in your account(s).
3. The firm can sell your securities or other assets without contacting you.
4. You are not entitled to choose which securities or other assets in your account(s) are liquidated or sold to meet a margin call.
5. The firm can increase its "house" maintenance margin requirements at any time and is not required to provide you advance written notice.
6. You are not entitled to an extension of time on a margin call.