



**EX MACHINA**

**APRIL/MAY 2023**  
MARKET OUTLOOK

# CONTENTS<sup>1</sup>

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**DIVERSIFICATION RETURNS**

2023 has witnessed a sharp reversal of 2022's historically high correlation between stocks and bonds, bringing relief to dynamic asset allocators like Cordoba. After rising throughout 2022, the 2-year Treasury yield experienced its largest daily drop since Black Monday in 1987 after the collapse of Silicon Valley Bank in March. The net result has been positive for balanced portfolios as Treasuries rallied while stocks declined. CAP portfolios benefited tremendously from the comeback of this "inverse relationship" given our barbell approach of buying safe Treasuries + longer duration, growth equities, which benefited from lower rates.

**GROWTH SWINGS BACK**

In our 2023 Annual Outlook, we warned of the pendulum swinging back from value to growth (after 2022 was a "overweight defensives" story). It did not take long for our premonition to ring true. We believe this reversal has further momentum as the Fed pivots to easier monetary policy on the back of slowing inflation and growth. The Lyxor Russell 1000 Growth UCITS ETF, the Vanguard Small-Cap Growth ETF (VBK), and the Invesco S&P Small Cap Information Technology ETF (PSCT) are attractive implementation options.

**SHORT BUNDS**

The European Central Bank (ECB) faces significant challenges in taming sky-high inflation, both at a headline (+6.9% YoY) and core (+5.7% YoY) level. The current yield on 10-year German bunds is extraordinarily low at ~2.2% and is likely to drift higher as the ECB continues its tightening policy. The Amundi German Bund Daily -1x Inverse UCITS ETF gains as the price of Bunds declines (as yields increase). For more aggressive investors, the Lyxor Bund Daily -2X Inverse UCITS ETF offers 2x this same exposure.

**TACTICALLY BUY FIXED & FLOATING PREFERRED**

There are two tactical trades available right now due to stress in the banking sector and a sharp decline in rates. The first is floating rate bonds, which are high quality investment grade instruments issued by financial companies with maturities <5 years. Our preferred implementation vehicle is the Invesco Fixed Preferred UCITS ETF and the Invesco Variable Preferred UCITS ETF. Banks issue preferred debt to help buffer their capital ratios, while also avoiding dilution of existing shareholders. The blended yield of the preferreds index is ~6.5% with the potential for capital appreciation given recent declines after the collapse of SVB and Signature Bank.



### **BARBELL STRATEGY SUSTAINS**

CAP favors exposure to growth stocks and Treasuries, but we tilt away from other types of credit. Our barbell strategy continues to have legs. Europe, Japan, and Emerging Markets are looking brighter, although a strong U.S. Dollar is their primary headwind, which should gradually abate over the medium term. We prefer U.S. large cap equity over mid and small cap. Uncorrelated alternatives are key in this environment as they help dampen portfolio volatility and produce asymmetric, positive yield through choppy markets.

### **BULLISH CRYPTO SETUP**

Crypto is refusing to bow out gracefully and HODL'ers<sup>1</sup> are being rewarded. The regional banking crisis is giving Bitcoin and Ethereum an adrenaline shot in the arm. BTC is +67% and ETH is +46%, while many smaller coins are staging bigger rallies. There are likely more gains and volatility on the horizon as uncertainty around financial institutions persists. Investors who sold crypto positions at the end of 2022 for tax loss purposes (without reinvesting) or because they lost faith in the asset class are surely regretful.

<sup>1</sup>HODL = hold on for dear life

### **"ACTIVE" MANAGERS CONTINUE TO SLUMP**

SPIVA's 2022 annual report on active managers paints a grim picture. The vast majority (>90%) of active managers across categories underperformed their respective benchmarks with the worst relative performance within European Equity and U.S. Real Estate. CAP solely considers active managers within asset classes that have inefficiencies. Emerging market equity, U.S. small cap, Japanese Mid/Small Cap, and Indian Small Cap are examples of area where talented managers can add value. Also, certain areas of the credit market can be more illiquid, and some active managers have great track records of adding value. Strategies that provide exposure to non-publicly traded asset classes are also attractive. Opportunistically adding leverage and hedging risks also amplify results. Our manager research effort focuses on identifying promising opportunities within these themes.

### **REGIONAL BANKS: OPPORTUNITY KNOCKS**

The bankruptcy of Silicon Valley Bank and Signature Bank in quick succession has created extreme panic in the U.S. regional banking sector. Both SVB and SBNY experienced bank runs whereby depositors withdrew money en masse in fear of impending bankruptcy. The government and Federal Reserve should continue to act decisively to prevent further bank runs. While the government has not introduced blanket FDIC insurance on all uninsured bank deposits, their rhetoric has implied one. This is positive for stronger regional banks, which should witness recovery as outflows abate. Weaker regional and community banks may continue to see deposit outflows which cause bankruptcy or severely diminished operations, but a large-scale banking crisis seems highly unlikely.

### OIL AND SOLAR TRADE

Leading oil producers like ConocoPhillips, and solar companies like Enphase Energy may benefit from a lift in sentiment. Both have strong fundamentals and are market leaders in their respective industries. We are not overly bullish on commodities, but the WisdomTree Enhanced Commodity ETF (WCOG) is an attractive implementation vehicle for exposure, as it actively tries to mitigate some of the negative effects of contango in futures markets.

### EX-MACHINA: CHATGPT CONQUERS

Akin to the boom days of crypto in 2020/21, a frenzy is underway following the release of the large language model by OpenAI known as ChatGPT<sup>2</sup>. One of CAP's top single-name picks, NVIDIA, has rallied +86% this year enriching client portfolios. Several public and private companies have changed their names and business models to include "AI", as a means of generating investor interest to capitalize on the frenzy. Make no mistake: these models are gamechangers. Google's Flan-PaLM model – also a Large Language Model like ChatGPT – recently passed the extremely challenging U.S. Medical Licensing Exam (USMLE). Humans will be replaced by fewer humans using machines across professions. Medicine, retail and finance are three big areas, but there are many more.

<sup>2</sup>GPT is short for generative pre-trained transformer, a family of language models by OpenAI trained on a large amount of text data to generate human-like text. A detailed discussion of programming techniques used to create these models is beyond the scope of this paper but are freely available online.

### SOFTWARE IS EATING THE WORLD

More and more companies will incorporate AI, but many will be fake (so diligence is key). Investors should not rush to buy "AI stocks", particularly C3.AI or BigBear.AI, but rather incorporate the potential for AI to enhance products and solutions offered by stellar companies in their respective industries. The key impact LLMs will have on the economy is a boost to labor productivity. AI is simply a continuation of "software eating the world." Any progress towards Artificial General Intelligence, where computers can possess human-level cognitive abilities, would be a much more significant development and currently remains in the realm of science fiction.

### GOOGLE FACES HEADWINDS

Just like Tiktok disrupted Facebook, ChatGPT and other large language models are poised to disrupt Google. Google currently has 90%+ market share in search. Both these numbers are likely to decline going forward, providing stiff headwinds. Google is responding aggressively with its own LLM called Bard. But its extremely dominant position makes it the likely attack target from other players looking to break into the market.

### DISINFLATION SET TO CONTINUE

The bankruptcy of SVB and SNBY, together with deposit withdrawals at regional banks, are likely to send deflationary impulses through the economy. However, recent readings have been much too high to signal an imminent Fed pivot. For example, CPI core YoY is at 5.6% in March with the Atlanta Fed's sticky CPI running at 6.6% YoY. The Fed fund futures market is looking ahead to significantly weaker economic data, with the Fed cutting rates into an impending recession. While we agree this is broadly correct, the magnitude of the recent rate declines are somewhat overdone. We expect some bounce back in short-term yields, as the Fed holds rates high despite weaker, disinflationary economic data.



2023 YTD RECAP: DIVERSIFICATION RETURNS

As we correctly anticipated, 2023 has seen a sharp reversal of the correlation between stocks and bonds, bringing relief to multi-asset class investors such as ourselves (Exhibit 1). After rising through much of 2022, Silicon Valley Bank's (SVB) bankruptcy triggered the largest one day drop in the 2-year Treasury yield since Black Monday in 1987. This led to a massive spike in interest rate volatility (Exhibit 2). The net result was positive for balanced portfolios as Treasuries buffered stocks' fall (bond prices and yields have an inverse relationship). CAP portfolios benefited as our barbell approach of buying safe Treasuries coupled with growth equity came out ahead. Both asset classes benefited from the massive drop in rates as we detail in the next section.

The ETF report card (Exhibit 3) shows sharp outperformance of tech stocks (QQQ) at +9.8% YTD. Within tech, semiconductor stocks (SMH) are shining at +28.6%, while financials (XLF) and energy (XLE) are struggling. Within financials, regional banks (KRE) have the most significant underperformance at -25.7% YTD. As we articulate later, this presents an attractive opportunity for investors willing to look through the noise with a long-term view. Bonds continue to recover with Treasuries (GOVT & TLT) outperforming High Yield credit due to rising credit spreads.

EXHIBIT 1: DIVERSIFICATION RELIEF DUE TO SHARP CORRELATION REVERSAL



Source: CAP Research, Bloomberg.

EXHIBIT 2: SVB BANKRUPTCY LED TO SPIKE IN RATE VOLATILITY



Source: CAP Research, Bloomberg.

EXHIBIT 3: 2023 YEAR-TO-DATE ETF REPORT CARD



Source: finviz.com

## GROWTH PUNCHES BACK

*“Investors are piling into value stocks as though growth companies will never outperform again. This is a foolish mistake for long-term investors. The pendulum will surely swing back to growth, and perhaps sooner than most expect.” – The Siren’s Song, CAP 2023 Annual Outlook*

In our 2023 Annual Outlook, we warned of the pendulum swinging back from value to growth stocks (after 2022 was a “stockpile value” story). It did not take long for the trend to reverse (Exhibit 4), and we believe we have further to go as the Fed pivots to easier monetary policy. There are a few trades to access this revival of growth stocks: the Lyxor Russell 1000 Growth UCITS ETF (Ticker: RUSG), which has \$366 million in AUM and 0.19% expense ratio. We also like the Vanguard Small-Cap Growth ETF (VBK), which has \$12B in AUM and an expense ratio of 0.07%, and the Invesco S&P Small Cap Information Technology ETF (PSCT), which has \$294 million in AUM and a 0.29% expense ratio. These small cap ETFs are US-listed onshore versions, but tax withholding considerations should not adversely affect offshore investors due their minimum dividend yields.

**EXHIBIT 4: GROWTH FIGHTS BACK AS YIELDS PLUMMET**



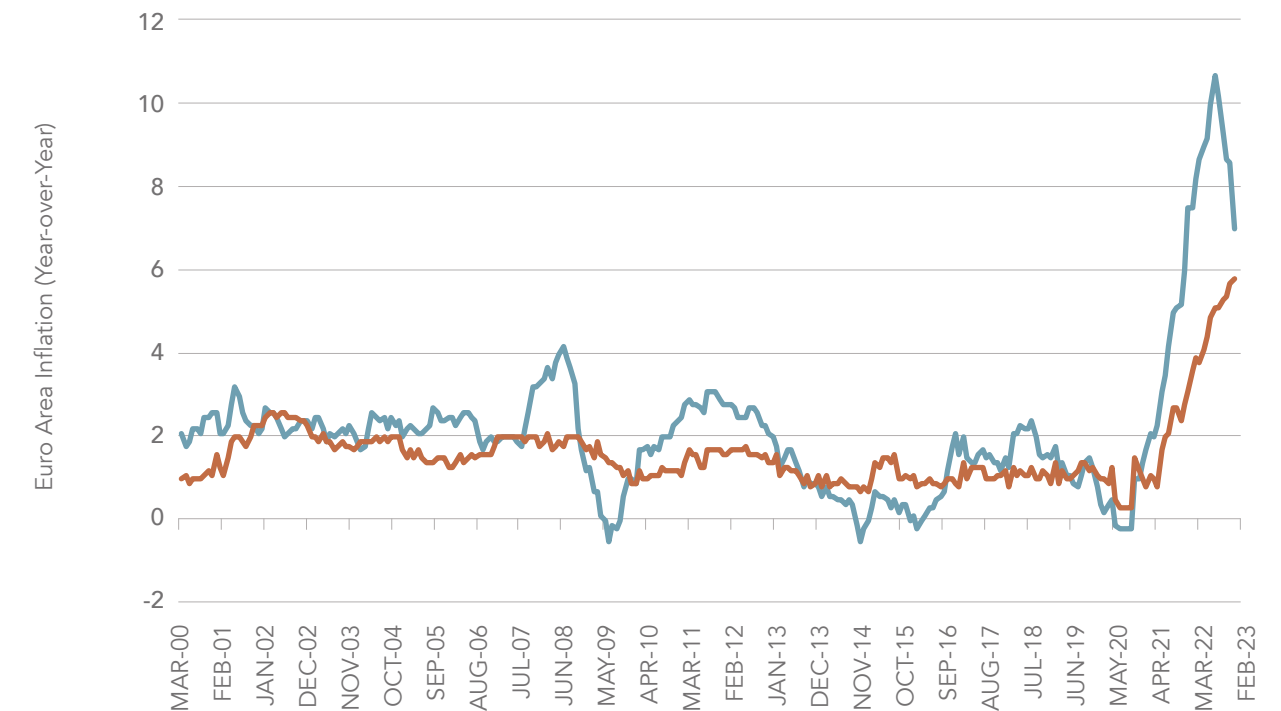
Source: Bloomberg

## SHORT BUNDS

*“We will deliver price stability, and bringing inflation back to 2% over the medium term is non-negotiable” – Christine Lagarde, ECB President*

The European Central Bank (ECB) faces significant challenges in its effort to tame sky-high prices, both at a headline (+6.9% YoY) and core (+5.7% YoY) levels (Exhibit 5). We find the current yield on 10-year German Bunds at ~2.2% to be extraordinarily low (Exhibit 6) and likely to drift higher as the ECB continues its policy of monetary tightening. With this in mind, shorting German bunds at current levels is likely to prove profitable over the coming 12-months. There are two implementation vehicles we like. The Amundi German Bund Daily -1x Inverse UCITS ETF (AHYJ) offers the daily inverse of the return on German bunds (which will be positive as Bund prices decline / yields increase). It has EUR 80 million in AUM and an expense ratio of 0.80%. Since the 10-year German Bund has a duration of ~9 years, a 1% increase in yields should result in AHYJ rising +9%. For more aggressive implementation, the Lyxor Bund Daily -2X Inverse UCITS ETF (LYQK) offers 2x the daily inverse of the return on bunds and has EUR 103 million in AUM and an expense ratio of 0.20%. A ~1% increase in yield would result in an increase of ~+18% on LYQK (assuming a linear increase in yields).

**EXHIBIT 5: EURO AREA INFLATION REMAINS ELEVATED**



Source: Bloomberg ■ Euro Area All Items Inflation YoY ■ Euro Area Core Inflation YoY

EXHIBIT 6: GERMAN BUND YIELDS REMAIN REMARKABLY LOW DESPITE INFLATION



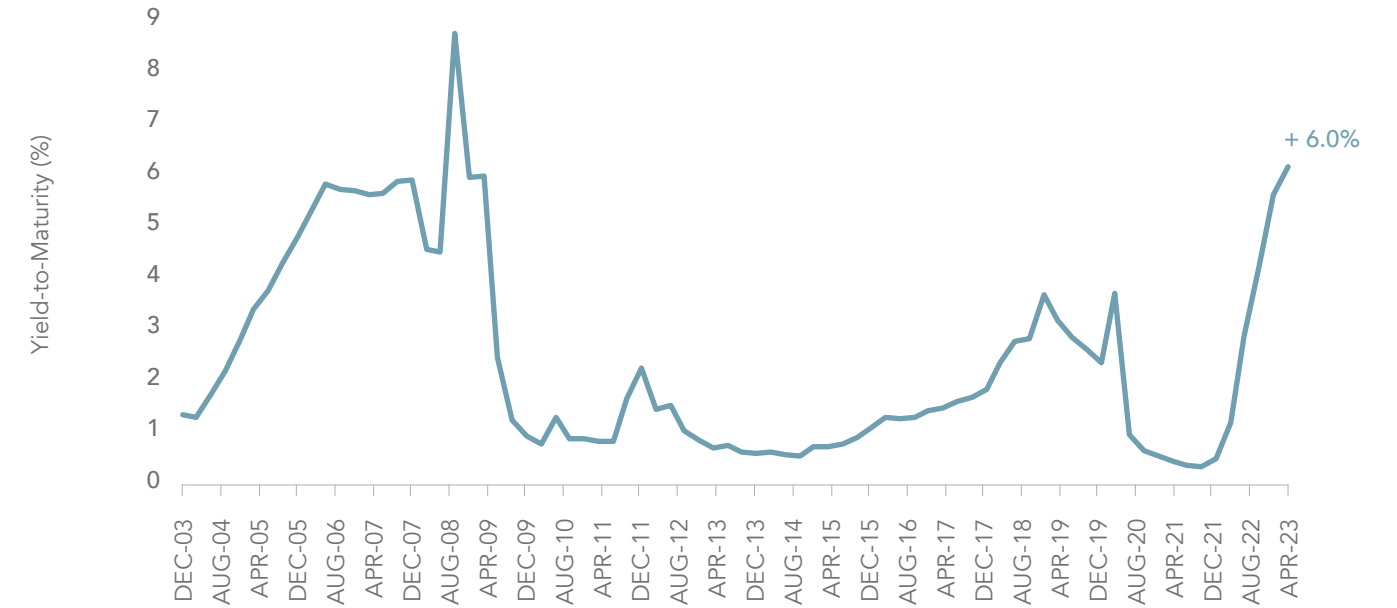
Source: Bloomberg

**BUY FLOATING/VARIABLE RATE CREDIT**

We outline two attractive trades below due to stress in the banking sector and a sharp decline in rates:

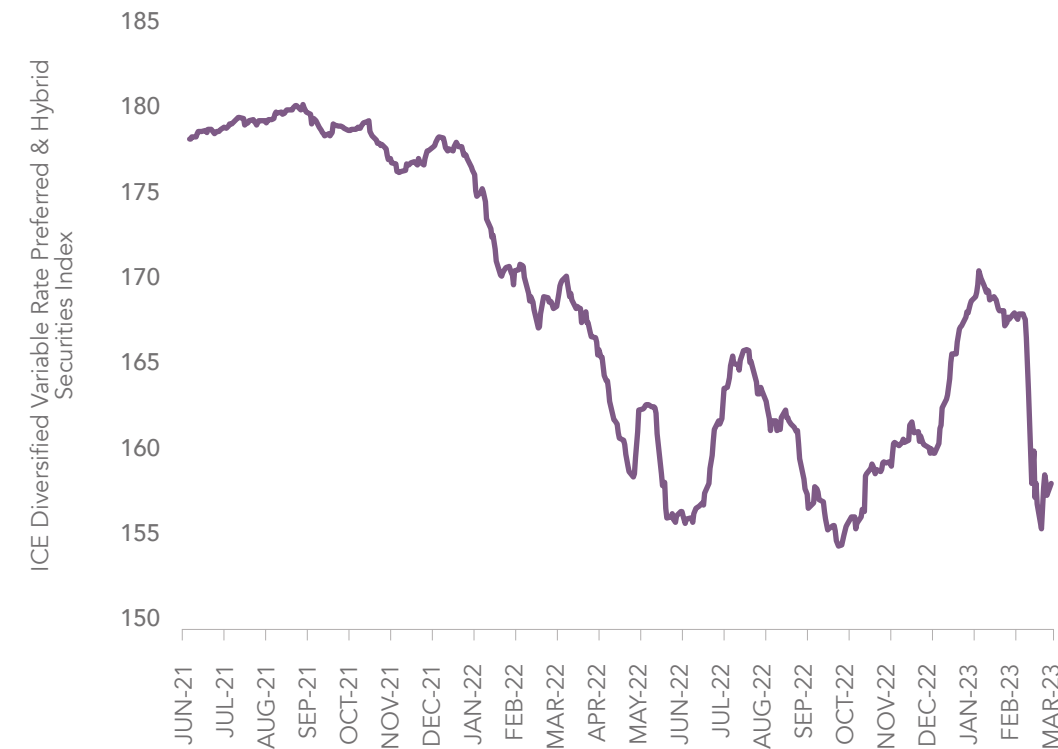
1. Floating rate bonds: These are high quality investment grade instruments with maturities less than 5 years and issued by financial companies – particularly banks and insurance companies. They suffer when rates go down but benefit when rates increase (as the coupon is adjusted higher). They have extremely low volatility (typically less than ~2% per year) and offer a 6% yield-to-maturity (Exhibit 7). Our preferred implementation vehicle is the iShares \$ Floating Rate Bond UCITS ETF (FLOT). It has \$7.7 billion in AUM and an expense ratio of 0.15%. FLOT is a cash equivalents substitute in our asset allocation models.
2. Fixed/Variable Rate Preferreds: Banks issue preferreds to help buffer their capital ratios, while also avoiding dilution of existing shareholders. Variable rate preferreds have dividends that are adjusted upward alongside interest rates, so they offer a hedge against rising rates. They have been hit hard by the current banking turmoil (Exhibit 8) and offer upside as fear dissipates. They offer 6-7% yields with capital appreciation potential. Our preferred vehicle for implementation is the Invesco Preferred UCITS ETF (PRFD) and the Invesco Variable Rate Preferred Shares UCITS ETF (VRPS).

EXHIBIT 7: FLOATING RATE CREDIT OFFERS JUICY YIELDS



Source: Bloomberg

EXHIBIT 8: PREFERRED S POISED TO RECOVER AS FEAR DISSIPATES



Source: Bloomberg



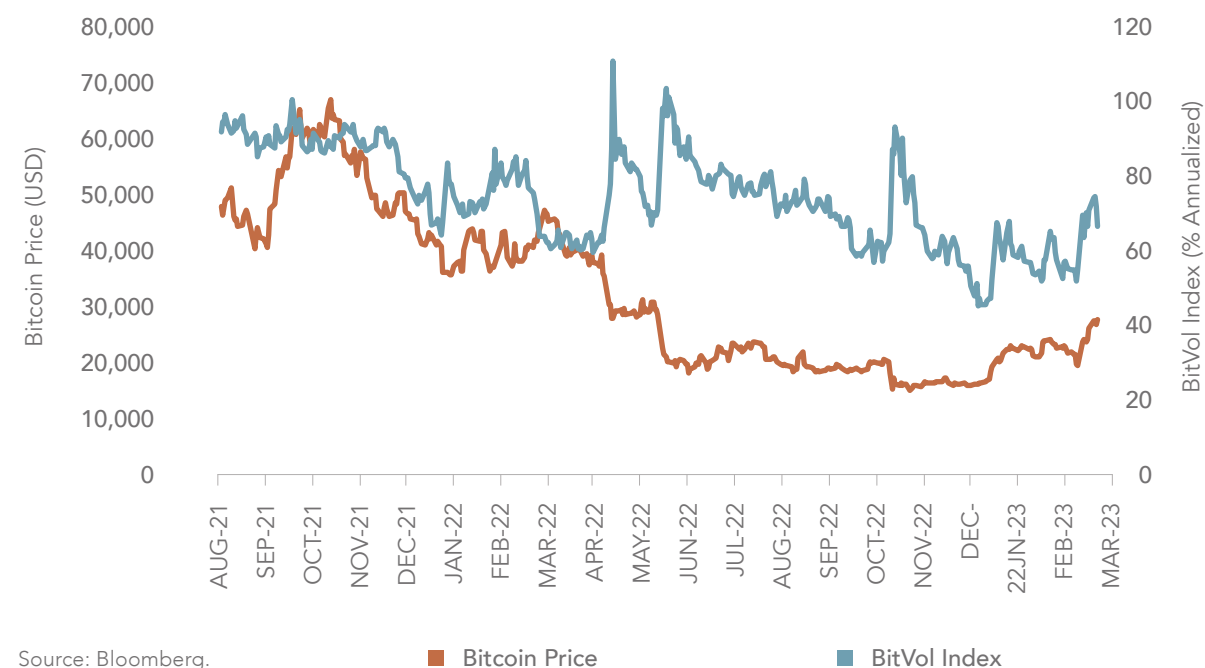
## BULLISH CRYPTO SETUP

*“Reports of my death have been greatly exaggerated.” – Mark Twain*

Crypto is refusing to bow out gracefully and HODLers are being rewarded. The current regional banking crisis is giving Bitcoin (BTC) and Ethereum (ETH) an adrenaline shot in the arm (Exhibit 9). BTC is +67% and ETH is +46% YTD, while many smaller coins are staging bigger rallies. There are likely more gains and volatility in store for 2023 as uncertainty around banks persists. Folks who sold at the end of 2022 for tax loss purposes (without buying back in) or because they lost faith are hurting. As we outlined in our 2023 Annual Outlook, crypto will continue to experience growing pains as regulators seek to protect investors. However, we remain bullish on blockchain and regard BTC/ETH as a call option on the technology (which is being widely adopted across major industries and applications). Sam Bankman-Fried’s massive fraud at FTX seems to have been a rough patch for the industry.

Bitcoin exposure can be gained through the Grayscale Bitcoin Trust (GBTC), which trades at a massive -36% discount to Net Asset Value) and has \$11B in AUM. It can also be bought directly via a crypto exchange and stored in cold or warm wallets. Futures implementation is also possible, since July Bitcoin Futures on the CME are trading at \$28,485, only a +2.8% premium to spot at \$27,705.

### EXHIBIT 9: BITCOIN VOLATILITY TRENDS LOWER AS PRICE RECOVERS



Source: Bloomberg.

■ Bitcoin Price      ■ BitVol Index

<sup>3</sup>HODL = hold on for dear life

## ACTIVE UNDERWHELMS

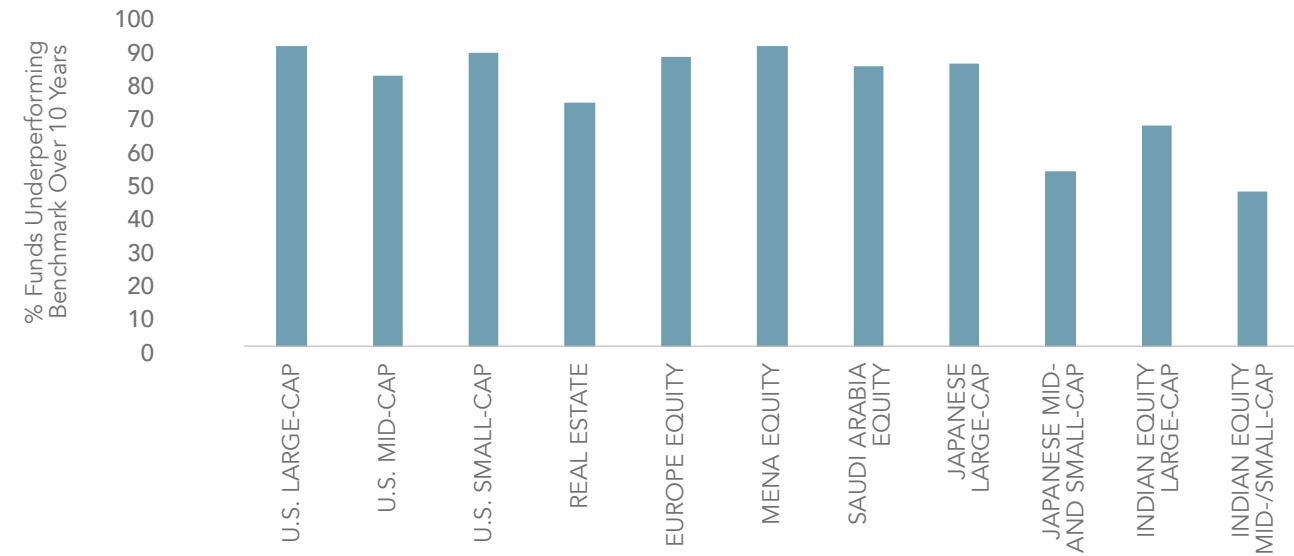
*“If Uri Geller bends spoons with divine powers, then he’s doing it the hard way” – James Randi*

S&P’s indices vs active score cards (SPIVA) most recent annual report on active manager performance paints a grim picture. Most active managers across different categories continue to underperform their benchmarks, with the worst relative performance in 2022 coming from European Equity and U.S. Real Estate managers (Exhibit 10). Over 10-15 years, >90% of active managers underperformed passive benchmarks/ETFs – an extreme but no longer shocking result. There is little surprise that flows into passive strategies have been so strong (Exhibit 11) and AUM in passive is now massively larger than active. Some pundits assert this is as a bubble, however there is little evidence (beyond the theoretical and philosophical) that market functioning or corporate valuations have been distorted due to passive indexing. One key point to remember: passive strategies are not the same as static strategies. Passive – particularly popular market capitalization-based strategies – buy more stock of companies that increase in market value while they sell the stock of companies that decrease in value. Passive strategies are in effect dynamic since they adjust to daily price movements.

The reason why passive strategies outperform active over long periods of time is rather simple as we’ve covered in previous research. Only a few companies account for most investment gains in the overall market (think Apple, Google, Amazon, and Tesla). Passive strategies continually increase allocations to these winners due to their inherent rebalancing mechanism. Active strategies try to avoid higher priced stocks and do not automatically increase allocations as they go up (thus sacrificing significant upside).

Nonetheless, there are a few bright spots for active management, which CAP looks to exploit. Emerging markets, U.S. mid/small cap equity, Japanese Mid/Small Cap equity and Indian Small Cap equity stand out (Exhibit 10). In addition, while not covered here, some credit markets are more illiquid (as most bonds still trade over the counter) and a few active managers have track records of adding consistent value. Exposure to alternative non-publicly traded asset classes can also add significant value. Opportunistically adding leverage can also produce very valuable results during broad expansion phases. Our manager research effort focuses on identifying promising managers in these areas.

EXHIBIT 10: EM & SMALL CAP OFFER SOME POTENTIAL FOR “ACTIVE” MANAGERS



FUND CATEGORY	COMPARISON INDEX	% OF ACTIVE FUNDS THAT UNDERPERFORMED BENCHMARK				
		1 YR (%)	3 YRS (%)	5 YRS (%)	10 YRS (%)	15 YRS (%)
U.S. Large-Cap	S&P 500®	51	74	87	91	93
U.S. Mid-Cap	S&P MidCap 400®	63	78	65	82	93
U.S. Small-Cap	S&P SmallCap 600®	57	67	71	89	94
Real Estate	S&P United States REIT	88	58	62	74	87
Europe Equity	S&P Europe 350	89	80	88	88	N/A
MENA Equity	S&P Pan Arab Composite LargeMidCap	26	60	88	91	N/A
Saudi Arabia Equity	S&P Saudi Arabia	47	53	81	85	N/A
Japanese Large-Cap	S&P/TOPIX 150	76	76	84	86	N/A
Japanese Mid- and Small-Cap Funds	S&P Japan MidSmallCap	74	46	38	53	N/A
Indian Equity Large-Cap	S&P BSE 100	91	84	89	67	N/A
Indian Equity Mid/ Small-Cap	S&P BSE 400 MidSmallCap Index	27	52	51	47	N/A

Source: spglobal.com. MENA = Middle East & North Africa

EXHIBIT 11: MONEY LEAVES ACTIVE DUE TO POOR RELATIVE PERFORMANCE

US domiciled cumulative fund flows, \$tn (to August 2022)



Source: Financial Times

KEY VIEWS & PORTFOLIOS

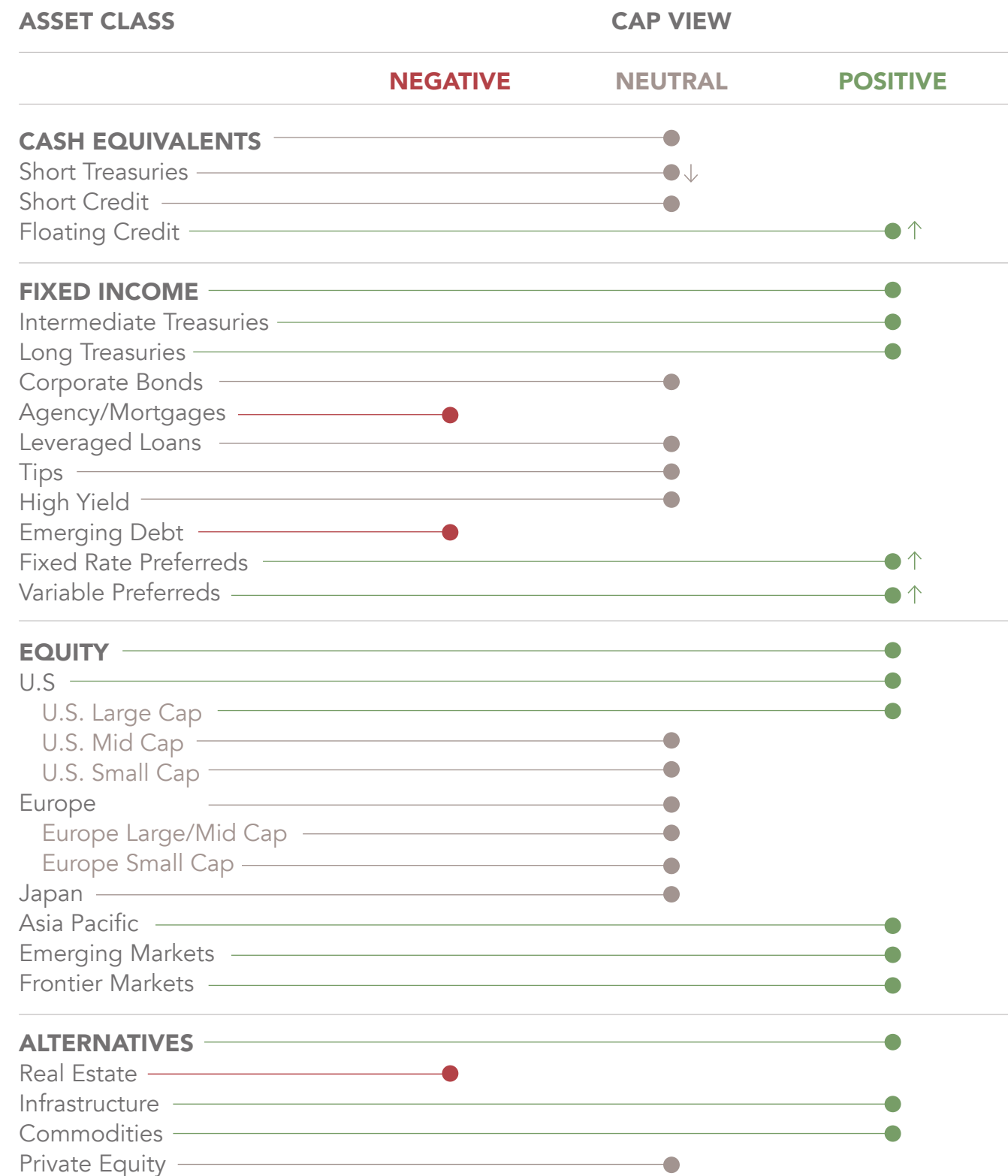
Exhibit 12 captures our key views across asset classes and Exhibit 13 summarizes our portfolios’ position. Our key trades for April/May are within the fixed income and alternatives buckets and are as follows:

**FLOATING RATE BONDS ATTRACTIVE:** We increase our allocation to floating rate credit away from short-term Treasuries, as it offers better protection against rising yields at the front-end of the yield curve. We still like Treasuries across the curve for absolute return, but believe the iShares \$ Floating Rate Bond UCITS ETF (FLOT) is likely to outperform with a ~6.1% Yield-to-Maturity.

**INCREASE PREFERRED VS. HIGH YIELD:** High yield faces double headwinds from elevated yields and widening spreads. Fixed and variable rate preferreds are poised to weather these headwinds, particularly after their recent sell-off due to banking sector turmoil. Preferreds offer price appreciation potential and a tailwind from a bounce back in yields. Our favored implementation vehicle is the Invesco Preferred Shares UCITS ETF (PRFD), which has a longer duration relative to variable rate vehicles.

**RAISE COMMODITIES WEIGHT:** We increase our allocation to commodities away from broad infrastructure to take advantage of higher oil/gas prices after the recent sell-off. We are still bullish on infrastructure but believe the risk-reward is better over the next 12 months in a diversified basket of commodities as well as MLPs. The WisdomTree Enhanced Commodity ETF (WCOG) is our preferred implementation vehicle, as it mitigates the negative effects of contango in commodity futures. Contango – which refers to an upwardly sloping curve for commodity prices – results in a negative return on futures contracts as they near expiration.

EXHIBIT 12: CAP KEY INVESTMENT VIEWS FOR APRIL/MAY 2023



Source: CAP Research

EXHIBIT 13: APRIL/MAY 2023 PORTFOLIO ALLOCATIONS

ASSET CLASS	SUB-CATEGORY	CAP CONSERVATIVE	CAP RESTRAINED	CAP BALANCED	CAP APPRECIATION	CAP HIGH OCTANE <sup>1</sup>	UCITS VEHICLE <sup>2</sup>	
<b>CASH EQUIVALENTS</b>	Short Treasuries Short Credit Floating Credit <b>Total Cash Equivalents</b>	<b>CLIENT PRIVILEGED<sup>1</sup></b>						
<b>FIXED INCOME</b>	Intermediate Treasuries Long Treasuries Corporate Bonds Mortgages & Lev Loans TIPS High Yield Emerging Debt Fixed Rate Preferreds Variable Preferreds <b>Total Fixed Income</b>							
<b>EQUITY</b>	U.S. Large Cap U.S. Mid Cap U.S. Small Cap Europe Large/Mid Cap Europe Small Cap Japan Asia Pacific Emerging Markets Frontier Markets <b>Total Equity</b>							
<b>ALTERNATIVES<sup>3</sup></b>	Real Estate Infrastructure Commodities Private Equity <b>Total Alternatives</b>							
<b>TOTAL</b>								
	Leverage Range Portfolio Yield							

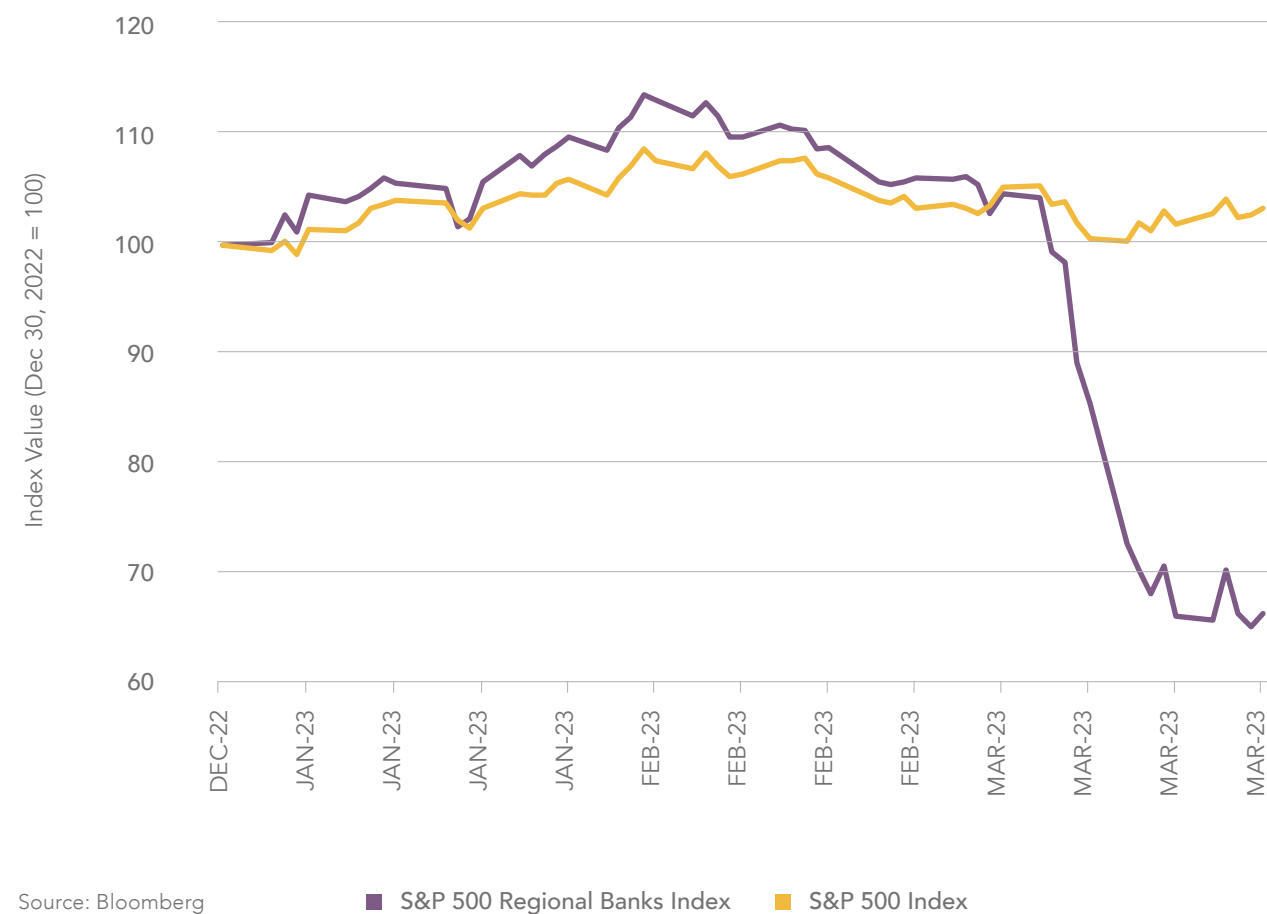
<sup>1</sup>CAP Appreciation and High-Octane portfolios have 5% and 10% leverage, respectively. <sup>2</sup>UCITS or 'undertakings for the collective investment in transferable securities' are investment funds regulated at the European Union level. <sup>3</sup>Real estate includes REITs, private equity real estate, public / private timber, and agriculture companies / assets. Infrastructure includes public companies with exposure to infrastructure activity, MLPs and private investments in infrastructure assets. Commodities include physical commodities, commodity futures and public and private companies engaged in the industrial metals, energy, precious metals, grains, and livestock industry. Totals may not reconcile due to rounding.

## REGIONALS: THE STRONG WILL SURVIVE

*Prisoner's Dilemma: Individual decision-makers always have incentive to make choices that create less optimal outcomes for the collective group.*

The bankruptcy of Silicon Valley Bank (SVB) and Signature Bank (SBNY) in quick succession created extreme panic in the U.S. regional banking sector (Exhibit 14). Both SVB and SBNY experienced bank runs, whereby depositors withdrew money en masse in fear of impending bankruptcy.

### EXHIBIT 14: U.S. REGIONAL BANKS HAVE BEEN CRUSHED DUE TO SVB CONTAGION



Source: Bloomberg

■ S&P 500 Regional Banks Index ■ S&P 500 Index

Bank runs are self-fulfilling prophecies and an example of the prisoner's dilemma in action. Here is an example of the prisoner's dilemma:

*Two prisoners are accused of a crime. If one confesses and the other does not, the one who confesses will be released immediately and the other will spend 20 years in prison. If neither confesses, each will be held only a few months. If both confess, they will each be jailed 15 years. They cannot communicate with one another. Given that neither prisoner knows whether the other has confessed, it is in the self-interest of each to confess himself. Paradoxically, when each prisoner pursues his self-interest, both end up worse off than they would have been had they acted otherwise<sup>4</sup>.*

Applied to banks, each depositor is fearful of bankruptcy, so they withdraw their money (confesses) in the hope of reclaiming their money (freedom). Unfortunately, when everyone withdraws their money (confesses), the bank goes into a tailspin (i.e., both prisoners go to jail). In the case of SVB and SBNY, wealthy venture capital and real estate investors withdrew their uninsured deposits (defined as greater than the \$250,000 FDIC limit<sup>5</sup>), creating a shortfall in equity capital. This was coupled with losses the banks were carrying on their "Held-to-Maturity" (HTM) fixed income investments (which back investor deposits) due to rising interest rates. These credits were not previously marked-to-market, so the precariousness of both banks' fiscal positions was not obvious to even discerning investors.

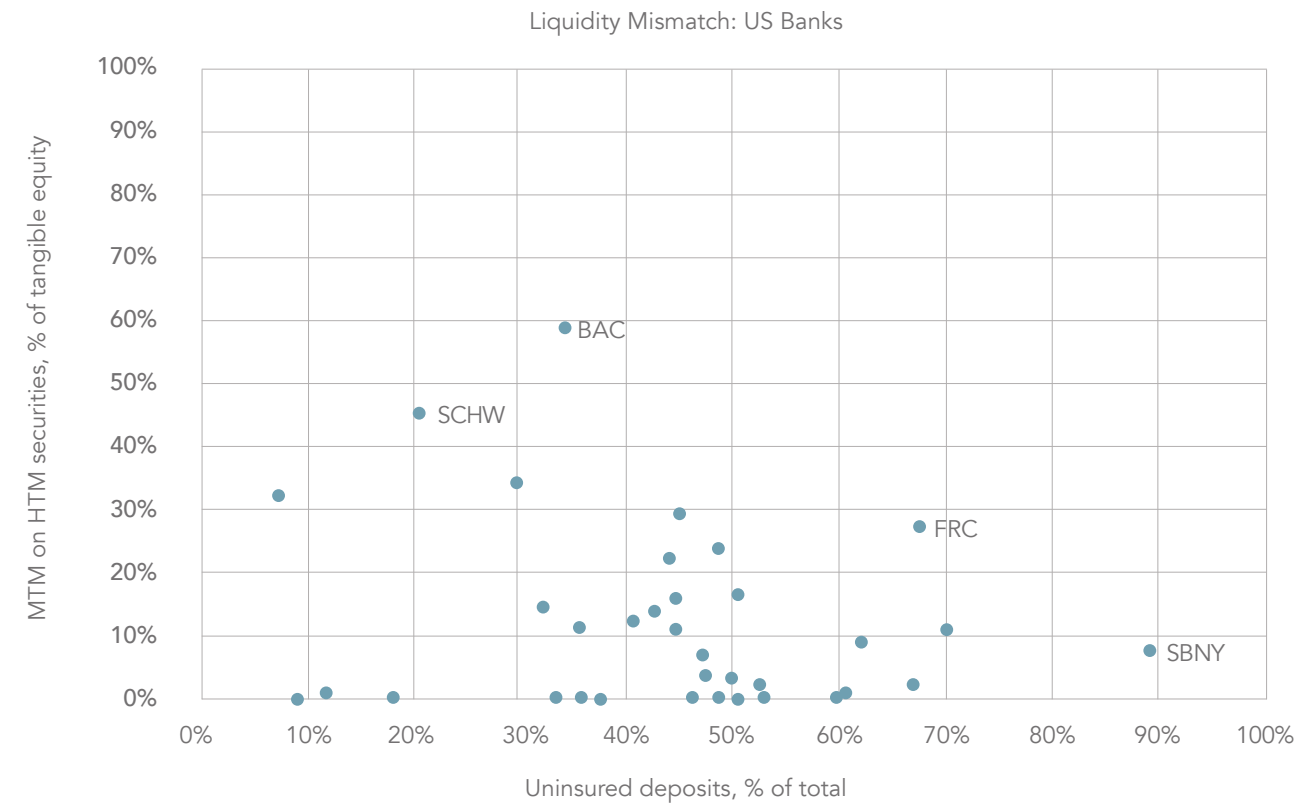
Are other regional banks potentially exposed to similar fates? Perhaps, but not to the same extent. First Republic Bank (FRC) stands out (Exhibit 15), as it has a high percentage of uninsured deposits and significant losses on its HTM securities relative to tangible shareholder equity. This is the reason a consortium of banks (including JPMorgan, Citigroup, Bank of America, and Wells Fargo) deposited \$30B into FRC and more actions are underway to shore-up the bank's equity.

<sup>4</sup> Britannica

<sup>5</sup> Federal Deposit Insurance Corporation (FDIC) is a 1933 government corporation that aims to prevent bank runs. It supplies deposit insurance of amounts up to \$250,000 per account held at U.S. commercial banks and savings banks. This insurance is provided by charging participating banks insurance premiums but is backed by the full faith of the U.S. government.



EXHIBIT 15: LIQUIDITY & EQUITY HEALTH OF SELECT U.S. BANKS



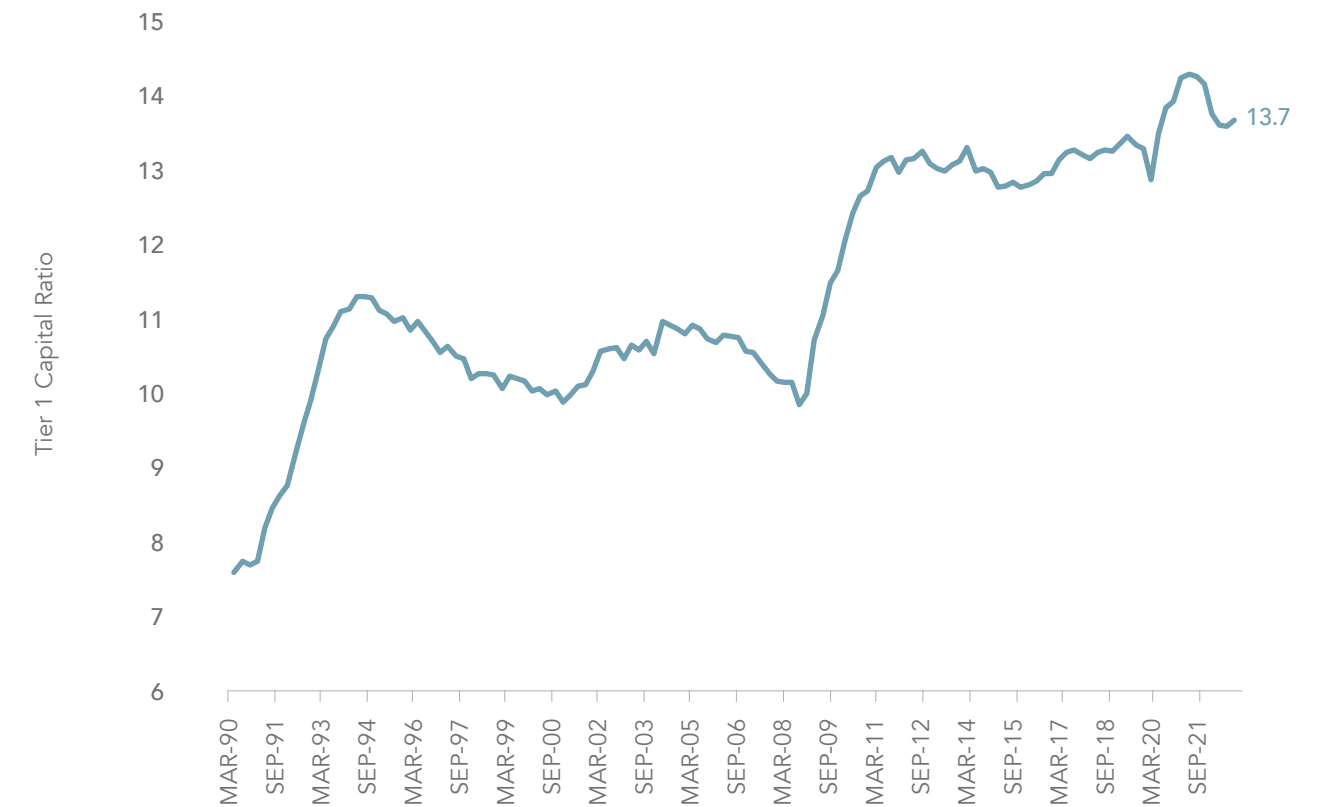
Source: <https://www.netinterest.co/p/contagion>

**NO SUBSTITUTE FOR REGIONAL AND COMMUNITY BANKS**

*“Americans can feel confident that their deposits will be there when they need them.” – Janet Yellen, Secretary of the Treasury*

So, what’s next? Firstly, as we have discussed in previous research, the banking sector is strong as illustrated by Tier 1 capital ratios (Exhibit 16). This layer of capital is set to absorb any losses from loan defaults and interest rate increases, and is well above historical norms. CAP’s conviction is that there is little risk of a large-scale bank run or financial sector collapse akin to 2009. Secondly, regional banks are critical to local economies and provide significant capital for economic growth, particularly within the real estate sector (Exhibit 17).

EXHIBIT 16: U.S. BANKING SECTOR STILL IN STELLAR SHAPE



Source: Bloomberg

EXHIBIT 17: REGIONAL BANKS ARE CRITICAL TO THE FUNCTIONING OF THE U.S. ECONOMY

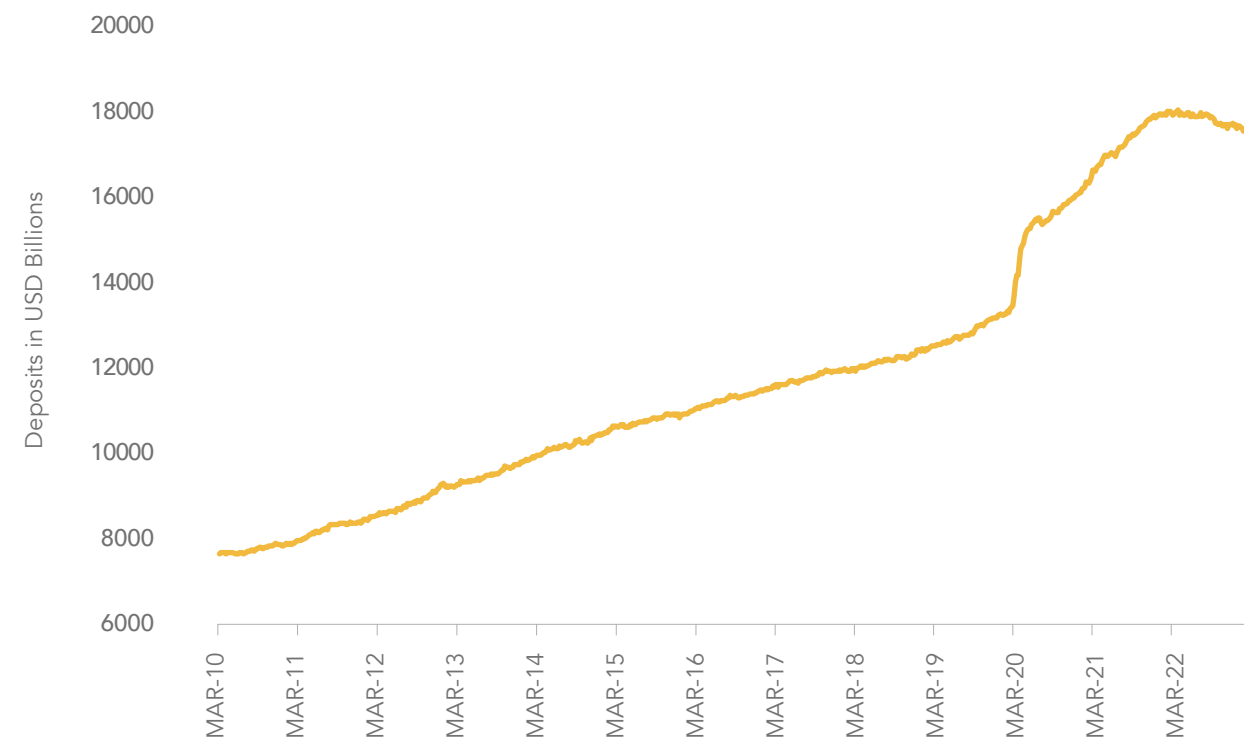
LOAN TYPE	TOTAL LOANS OUTSTANDING (\$ TRILLIONS)	LOANS BY REGIONAL & COMMUNITY BANKS (\$ TRILLIONS)	% TOTAL BY REGIONAL AND COMMUNITY BANKS
COMMERCIAL & INDUSTRIAL	\$18.3	\$1.9	10%
COMMERCIAL REAL ESTATE	\$8.0	\$1.1	14%
RESIDENTIAL REAL ESTATE	\$3.9	\$0.7	18%
CONSUMER LOANS	\$2.7	\$0.2	7%
OTHER	\$1.3	\$0.2	15%
<b>TOTAL</b>	<b>\$34.2</b>	<b>\$4.1</b>	<b>12%</b>

Source: Federal Reserve

Our view is that the government and Federal Reserve will continue to act decisively to prevent further bank runs. While the government has not introduced blanket FDIC insurance on all uninsured bank deposits, their rhetoric (such as the quote from Secretary Yellen) has effectively implied one. This backstop is positive for stronger regional banks, which should begin to recover as deposit outflows abate. Weaker regional and community banks may face deposit outflows which diminish their operations and shareholder value, but a large-scale regional banking crisis is not in the cards.

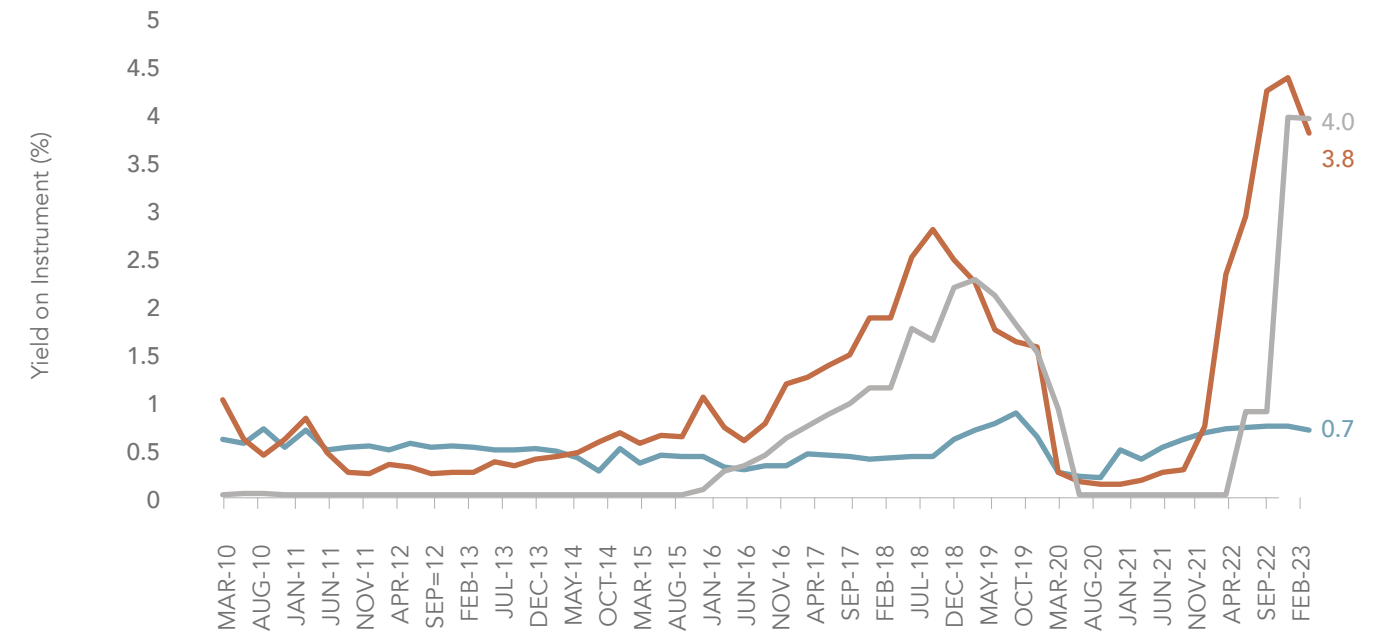
On the negative side, bank deposit flows into U.S. Treasuries money market funds (which hold short-term commercial paper issued by financial institutions and are poised to continue (Exhibit 18), as these credits offer significant rate premium (Exhibit 19). This migration is likely to exert pressure on bank balance sheets and profitability, particularly those with wealthy customer bases who are sensitive to the returns they earn on deposits for the first time since the Great Financial Crisis.

**EXHIBIT 18: DEPOSITS AT U.S. COMMERCIAL BANKS LIKELY TO DECLINE**



Source: Federal Reserve

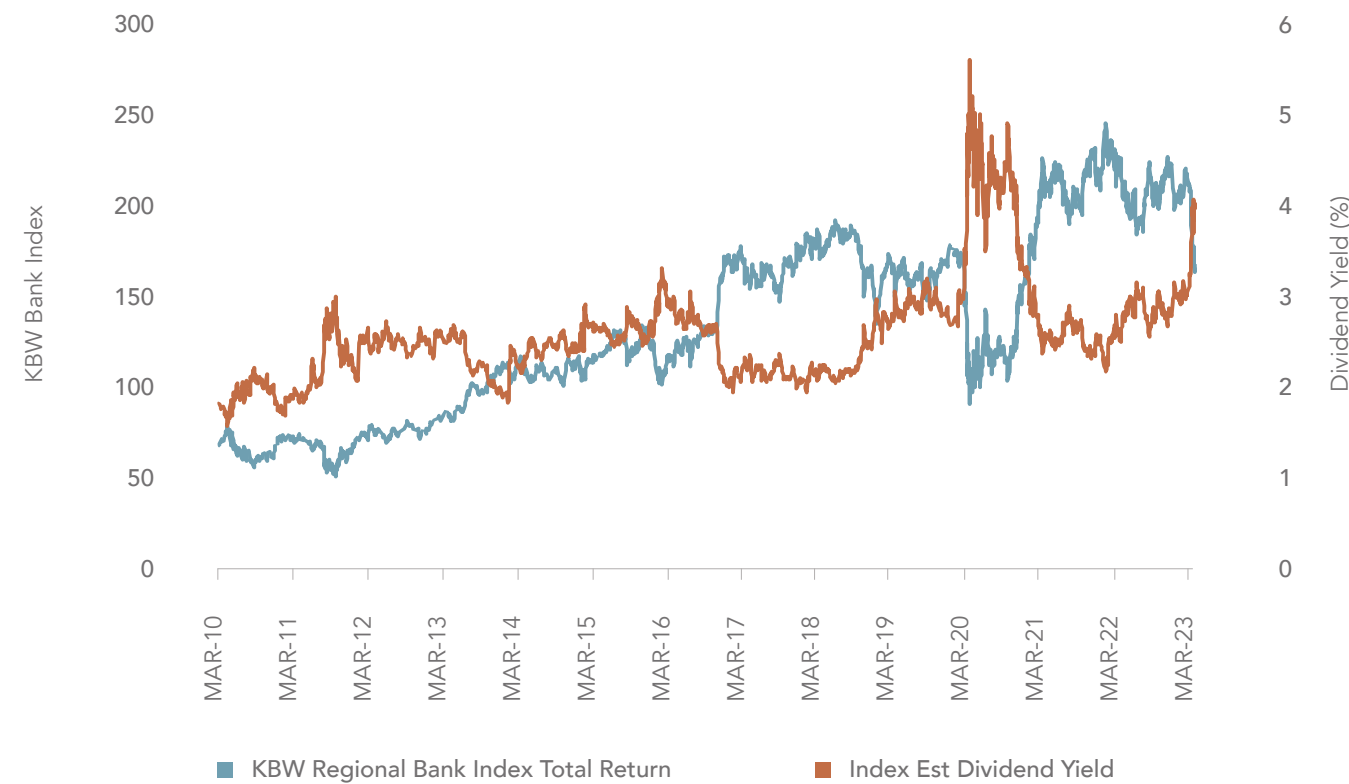
**EXHIBIT 19: YIELD ON MONEY MARKET FUNDS & TREASURIES FAR EXCEED BANK DEPOSITS**



Source: Bloomberg  
 ■ Bankrate.com US Interest Checking National Avg ■ 2 Year Treasury Yield  
 ■ Fidelity Money Market Fund Indicated Yield

CAP is constructive on the recovery prospects of strong U.S. banks and we recommend buying the fear at steep discounts. The dividend yield on the KBW Regional Bank ETF (KBWR) stands at ~4% (Exhibit 20), a level only exceeded during the Global Financial Crisis of 2008 and for a brief moment during the COVID sell-off of 2020. The First Trust NASDAQ ABA Community Bank Index Fund (QABA) is down -26% from its 52-week highs and offers a +3% dividend yield. The SPDR S&P Regional Bank ETF (KRE) is a more diversified option and is down -40% from its 52-week highs offering a ~3.5% divided yield. It has \$2.9B in AUM and an expense ratio of 0.35%.

**EXHIBIT 20: REGIONAL BANKS ARE ATTRACTIVE ON A RELATIVE YIELD BASIS**

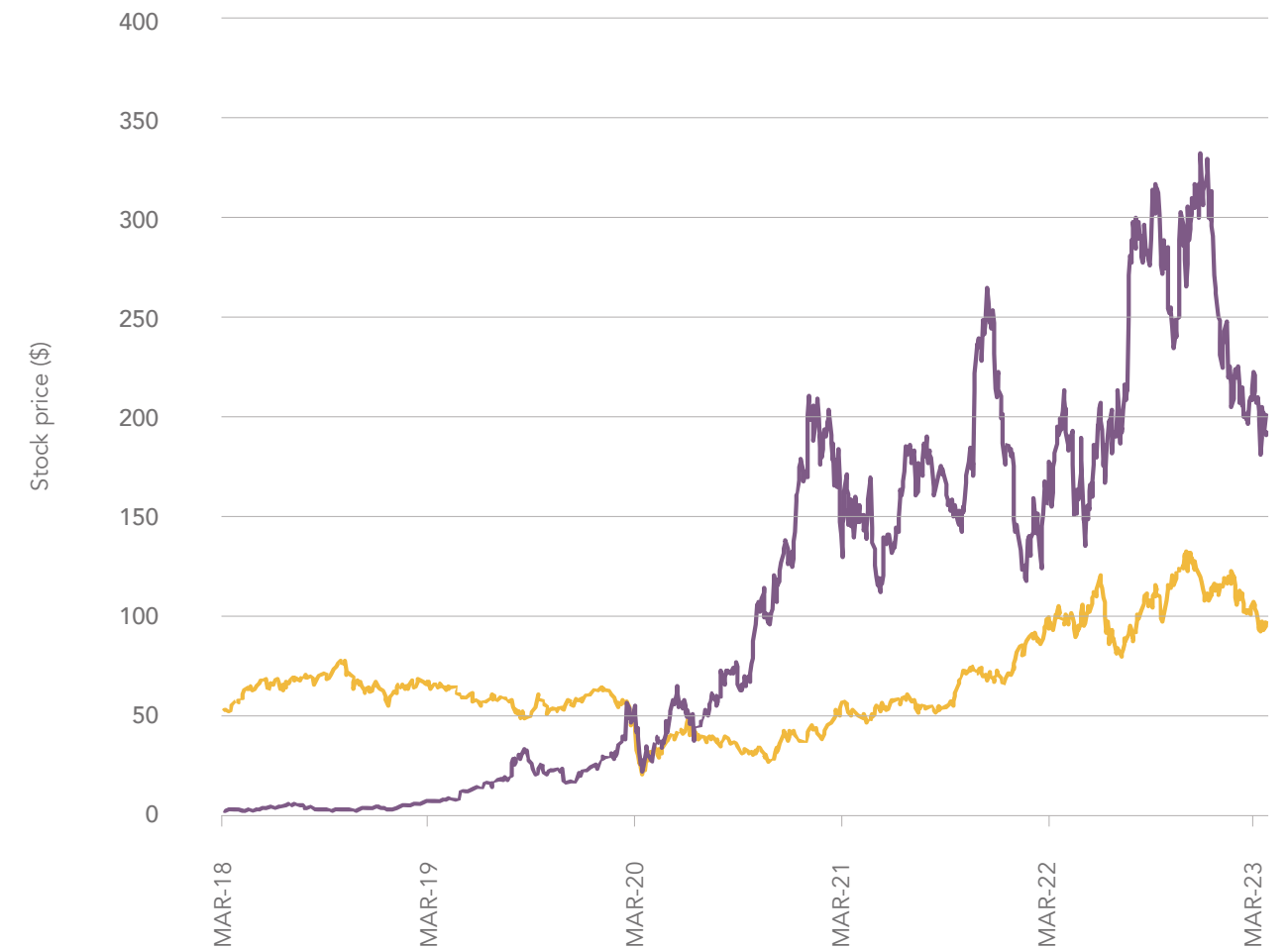


NAME	MARKET CAPITALIZATION (\$ BILLIONS)	FORWARD PRICE / 2023 EARNINGS RATIO	PRICE/TANGIBLE BOOK VALUE	DIVIDEND YIELD (%)	% FROM 52 WEEK HIGH
PNC	49	8.4	1.5	4.9	-38%
TRUIST	46	6.3	1.9	6.4	-46%
M&T	20	6.1	1.3	4.6	-40%
FIFTH THIRD	18	6.3	1.7	5.2	-45%
REGIONS	17	6.9	2.0	4.6	-26%
HUNTINGTON	17	7.4	1.6	5.8	-31%
<b>KBW REGIONAL BANK INDEX</b>	<b>N/A</b>	<b>11.9</b>	<b>1.7</b>	<b>3.9%</b>	<b>-14.9%</b>

Source: Bloomberg

The uncertainty around banks has also put pressure on three tangential areas of the market: oil prices, solar companies, and commercial real estate. These are cyclical sectors which act as bellwethers for macroeconomic sentiment. Oil prices and solar may be poised for recovery alongside banking stocks once uncertainty around deposit outflows dissipates. We are cautious on commercial real estate, as it faces other headwinds that may be longer term in nature (debt maturities, high interest rates, structural decline in office space demand). Leading oil producers like ConocoPhillips (COP) and solar companies like Enphase Energy (ENPH) may benefit from a lift in sentiment. Both have strong fundamentals and are market leaders in their respective industries. Their stocks have been hit hard recently (Exhibit 21).

**EXHIBIT 21: OIL & SOLAR SHOULD RECOVER AS SENTIMENT IMPROVES**



Source: Bloomberg

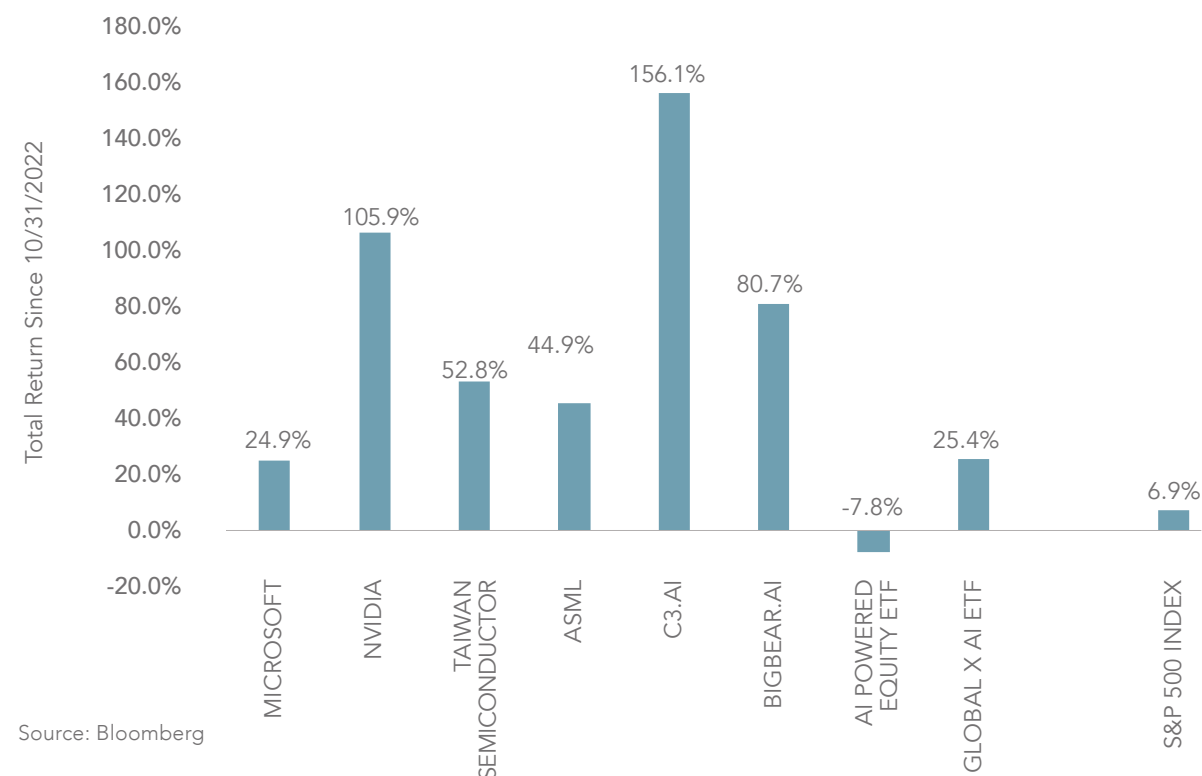
ConocoPhillips Enphase Energy

## AI USHERS FUTURE PRODUCTIVITY LIFT

*“Artificial intelligence is no match for natural stupidity” – Charlie Munger*

Akin to the boom days of crypto in 2020/21, a frenzy is underway following the release of the large language model (LLM) by OpenAI known as ChatGPT. Several public and private companies have changed their names and business models to include the acronym “AI,” as a means of disingenuously generating investor interest given the frenzy. OpenAI itself has most recently been valued at ~\$29 billion, a staggering figure for a company that barely made \$30 mln in revenue last year. Other public companies and ETFs in the space have also experienced sharp gains (Exhibit 22). Leading the way are two “meme” stocks: C3.ai and BigBear.ai, followed closely by NVIDIA, Taiwan Semiconductor and Microsoft. CAP portfolios have benefited as NVIDIA was our top single-name conviction going into 2023. Ironically, the AI Powered Equity ETF (which utilizes IBM’s Watson to pick stocks) has performed poorly over this period; this is perhaps a testament to the perceived, differentiated value of “new AI.”

### EXHIBIT 22: EXPLOSIVE STOCK PRICE GAINS IN AI AFFILIATED STOCKS



<sup>5</sup> GPT is short for generative pre-trained transformer, a family of language models by OpenAI trained on a large amount of text data to generate human-like text. A detailed discussion of programming techniques used to create these models is beyond the scope of this paper but are freely available online.

<sup>6</sup> ChatGPT is trained using Microsoft Azure supercomputing infrastructure with Nvidia GPUs. ChatGPT’s hardware comprises over 285,000 CPU cores, 10,000 GPUs, and network connectivity of 400 GBs per second per GPU server. Taiwan Semiconductor manufactures chips for NVIDIA.

How impressive are LLMs like ChatGPT? This is a difficult question to answer since it varies significantly by task. But one example clearly illustrates the progress made thus far. Google’s Flan-PaLM model – also a Large Language Model like ChatGPT – recently passed the extremely challenging U.S. Medical Licensing Exam (USMLE) – scoring close to 70%, the first such LLM model to do so. The progress is ongoing and newer state of the art models now train billions of parameters using large databases to mimic human-like responses. NVIDIA/Microsoft released Megatron-Turing, which can train 530 billion parameters and lets businesses create their own AI applications (Exhibit 23). Beyond text, generative AI models can also create images and videos that mimic human creativity. In terms of earnings growth potential, companies that are able to effectively leverage AI technology are likely to see significant benefits in terms of revenue growth, cost savings, and profitability. This could be particularly true for companies in industries such as technology, healthcare, and finance, where AI is already making significant inroads.

### EXHIBIT 23: LARGE LANGUAGE MODELS (LLM) TRAIN ON BILLIONS OF PARAMETERS

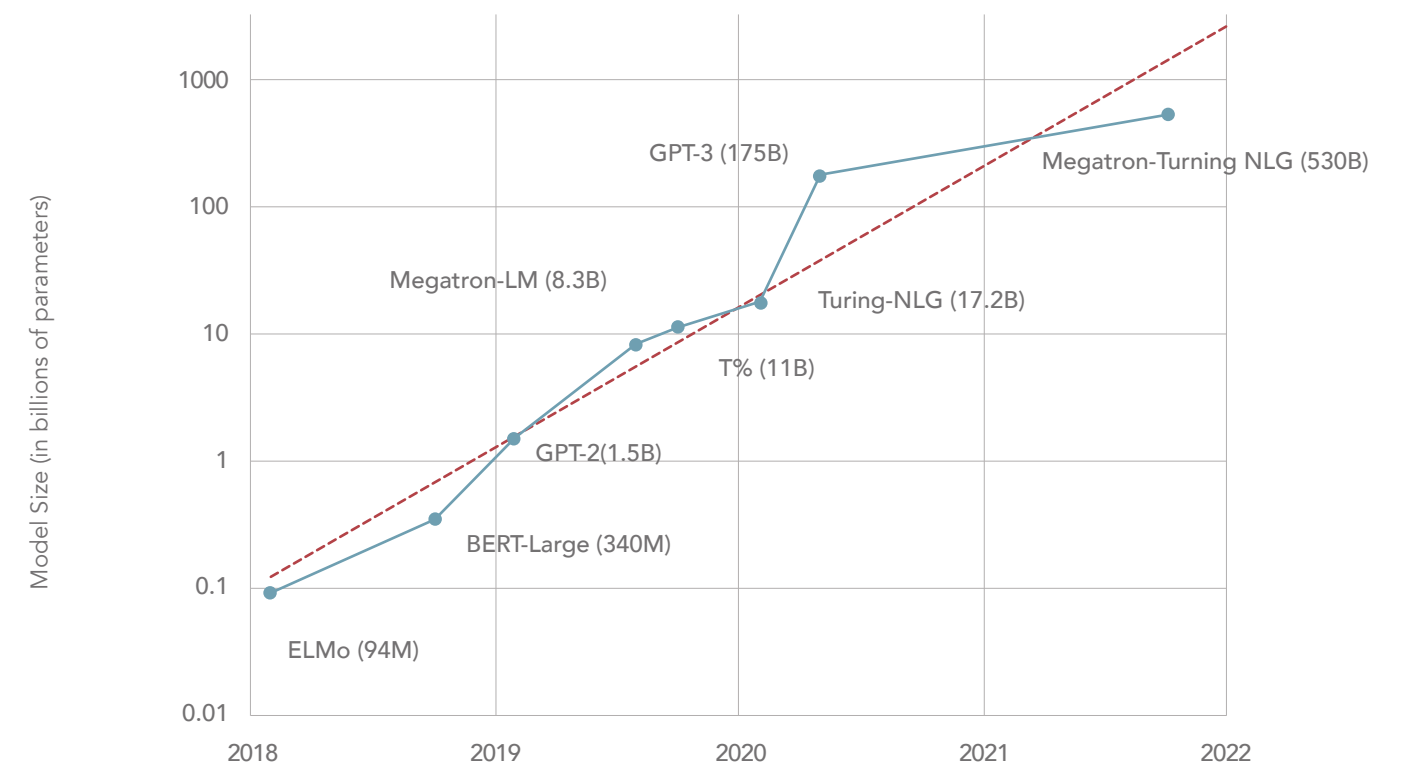


Figure 1. Trend of sizes of state-of-the-art NPL models over time

Source: <https://www.microsoft.com/en-us/research/blog/using-deepspeed-and-megatron-to-train-megatron-turing-nlg-530b-the-worlds-largest-and-most-powerful-generative-language-model/>

<sup>7</sup> <https://developer.nvidia.com/megatron-turing-natural-language-generation>



## GENERATIVE AI POISED TO BECOME TABLE STAKES

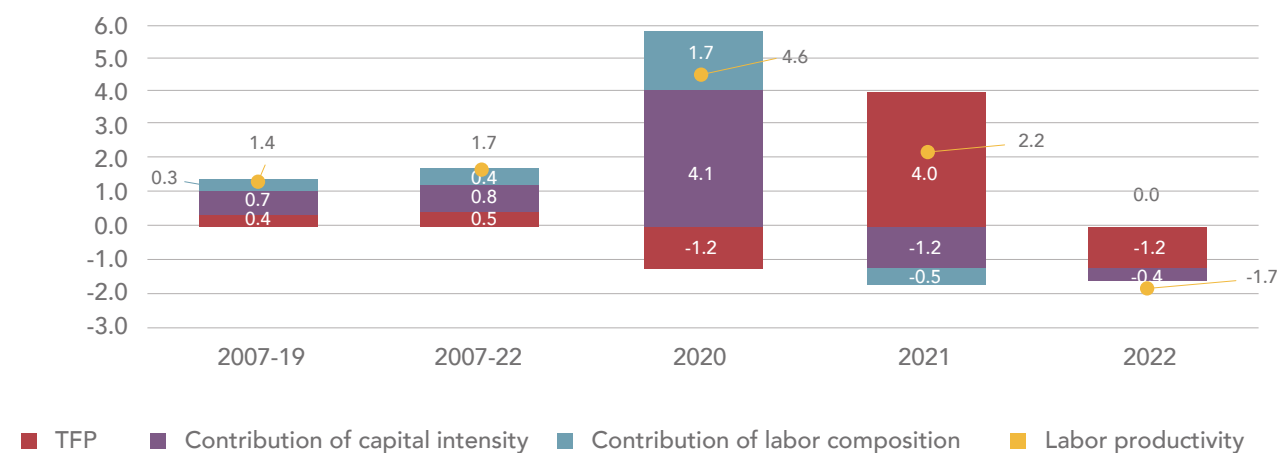
*“Software is eating the world” – Marc Andreesson*

According to goingVC, over 20% of all investments into VC are currently going into AI. Investors need to fully understand AI and its potential to disrupt existing industries as well as create new ones. For example, since the launch of ChatGPT in October 2022, there have been 30 new AI startups. More and more companies will incorporate AI to drive efficiencies (many will be fake, so diligence is key). Investors should not rush to buy “AI stocks”, but rather incorporate the potential for AI to enhance products and solutions offered by different companies across industries. AI by itself will not disrupt sectors, but individuals strategically utilizing AI surely will.

The key impact LLMs will have on the economy is a likely boost to productivity through cheaper labor inputs. Productivity measures the output per hour worked. A higher number suggests more output is being produced with the same or fewer resources than before. This data is closely tracked and released by the Bureau of Labor Statistics. Much has been made about sluggish productivity growth rates over the last 20 years (Exhibit 24). Generative AI and LLMs are poised to give these figures a boost by dramatically improving the efficiency of clerical/administrative tasks and eliminating jobs solely focused on repackaging and conveying conventional information, which is widely available. In many ways, AI is simply a continuation of “software eating the world”. Any progress towards Artificial General Intelligence, where computers can possess human-level cognitive abilities, would be a much more significant development. For the time being, such parity remains in the realm of science fiction.

### EXHIBIT 24: AI COULD STAGE A TURNAROUND IN SLUGGISH PRODUCTIVITY GROWTH

Average Annual Percent Growth



Source: bls.gov. The sum of long-term rates of change of total factor productivity, contribution of capital intensity, and contribution of labor composition may differ from the long-term rate of change in labor productivity.

## CAP Q&A WITH CHATGPT

To illustrate the power of Generative AI and Large Language Models (LLMs), we did a Q&A session with ChatGPT. Responses below are generated by ChatGPT for illustrative purposes:

### Q. WHAT IS GENERATIVE AI?

Generative AI is a subset of artificial intelligence that enables machines to generate new content or data, such as images, music, or text, that did not exist before. It uses complex algorithms, such as neural networks, to learn from existing data and create new output that mimics the patterns and structures of that data.

### Q. WHAT ARE LARGE LANGUAGE MODELS?

Large language models are AI algorithms that use deep learning techniques to process and generate natural language text. These models are trained on vast amounts of data and can be used for a wide range of applications, such as language translation, chatbots, content creation, and question-answering systems.

### Q. HOW GOOD ARE LLMs LIKE CHATGPT?

Largest Language Models (LLMs) like ChatGPT are considered some of the most advanced language models available and have achieved state-of-the-art performance in various natural language processing tasks. They can process large amounts of text data, learn complex patterns, and generate human-like language. However, like any machine learning model, their performance is still limited by the quality and diversity of the training data and the accuracy of the evaluation metrics used to measure their performance.

### Q. GIVE EXAMPLES OF PROBLEMS THAT LLMs ARE GOOD AT SOLVING?

Large Language Models (LLMs) are good at solving a wide range of natural language processing tasks. Some examples include text classification, sentiment analysis, named entity recognition, machine translation, question answering, language modeling, text generation, and text summarization. LLMs have also been used for tasks such as image captioning and speech recognition by generating text descriptions of images or transcribing speech to text.

### Q. WHAT ARE SOME MISCONCEPTIONS PEOPLE HAVE ABOUT LLMs?

Some misconceptions people have about LLMs include that they can fully understand and replicate human intelligence and creativity, that they can completely eliminate the need for human writers, that they are completely unbiased, that they are always accurate and reliable, and that they are only accessible to large corporations or tech companies. In reality, LLMs have limitations and biases, require human oversight, and can have ethical concerns around the use and generation of content.

**Q. CAN YOU PRODUCE A TABLE WITH COMPANY NAME, PRODUCT USING GENERATIVE AI AND BRIEF DESCRIPTION OF THE SOLUTION?**

COMPANY NAME	PRODUCT USING GENERATIVE AI	BRIEF DESCRIPTION
GOOGLE	AutoML	Improving machine learning models
GOOGLE	Google Translate	Language translation
GOOGLE	DeepMind	Creating games that teach AI systems to reason
ADOBE	Sensei AI	Automated suggestions and insights in image and video editing tools
OPENAI	GPT-3	Natural language text generation
OPENAI	AI Language Models	Automated customer service
NVIDIA	GauGAN	Creating realistic images from simple sketches
NVIDIA	NVIDIA AI Platform	Intelligent video analytics
AMAZON	Alexa	Voice assistants
AMAZON	Amazon Go	Cashier-less stores
IBM	Watson	Automated language translation
IBM	Watson Assistant	Virtual assistants
MICROSOFT	Azure Cognitive Services	Language and speech recognition
MICROSOFT	Microsoft Teams	Chatbots and virtual assistants
AUTODESK	Dreamcatcher	Generative design

**Q. WHAT IS ARTIFICIAL GENERAL INTELLIGENCE?**

Artificial General Intelligence (AGI) is a hypothetical form of AI that would possess human-level cognitive abilities, such as reasoning, problem-solving, learning, and creativity, across a broad range of tasks and contexts. It would be able to understand and perform a wide variety of intellectual tasks, similar to how humans do.

**Q. WILL THE STOCK MARKET GO UP IN 2023?**

As an AI language model, I don't have access to insider information or data about future events that might impact the stock market. The performance of the stock market in 2023 will depend on a variety of factors such as global economic conditions, monetary policy, geopolitical events, and company-specific news. Factors such as interest rate changes, inflation, economic growth, and corporate earnings will likely continue to play a role in market movements. It's also worth noting that the stock market can be volatile and unpredictable in the short term. Investors should consider maintaining a long-term perspective, diversifying their portfolios, and consulting with a financial advisor to help navigate market fluctuations and achieve their financial goals.

**Q. WHAT WAS GOOGLE'S SHARE OF SEARCH IN 2022?**

According to Statcounter GlobalStats, as of December 2022, Google held a global search engine market share of approximately 92.86%, which makes it the dominant search engine worldwide.

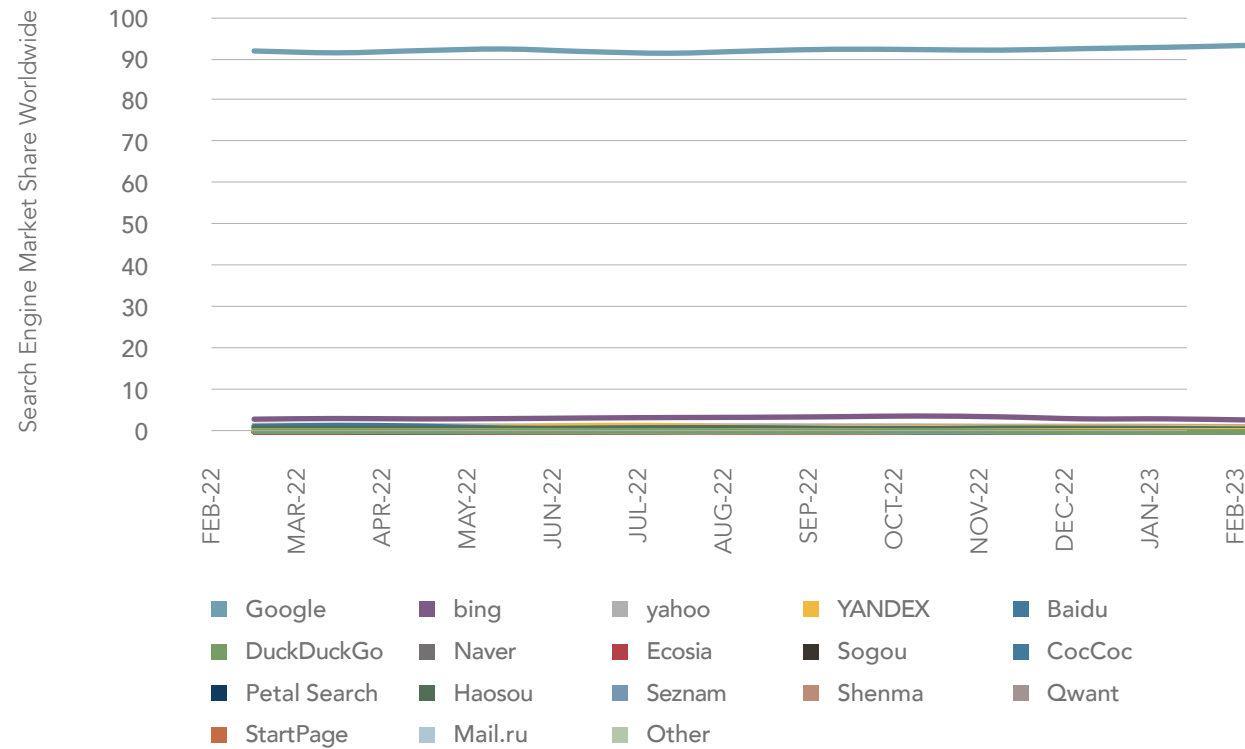
**GOOGLE TO GRADUALLY LOSE MARKET SHARE**

*"The gross margin of search is going to drop forever" - Satya Nadella, Microsoft CEO*

Google offers a wide range of products and services such as search, advertising, cloud computing, and mobile operating systems, among others. Just like Tiktok disrupted Facebook, ChatGPT and other LLMs are poised to disrupt at least part of Google's business in areas like natural language processing and conversational interfaces. Google currently has 90%+ market share in search (Exhibit 25). This number is likely to decline going forward, providing stiff headwinds given the company's extremely high margins (Exhibit 26). To be sure, Google is responding aggressively with its own LLM called Bard. But its extreme dominant position makes it the likely target of attack from other players looking to break into the market.

While it is possible that Chat GPT and other AI technologies could challenge Google, it is unlikely that they will completely disrupt the company's overall dominance in the search and advertising markets for some years to come.

**EXHIBIT 25: GOOGLE'S 90%+ MARKET SHARE IN SEARCH IS LIKELY TO DECLINE**



Source: <https://gs.statcounter.com/search-engine-market-share>

**EXHIBIT 26: GOOGLE'S OPERATING MARGINS LIKELY TO COME UNDER PRESSURE**

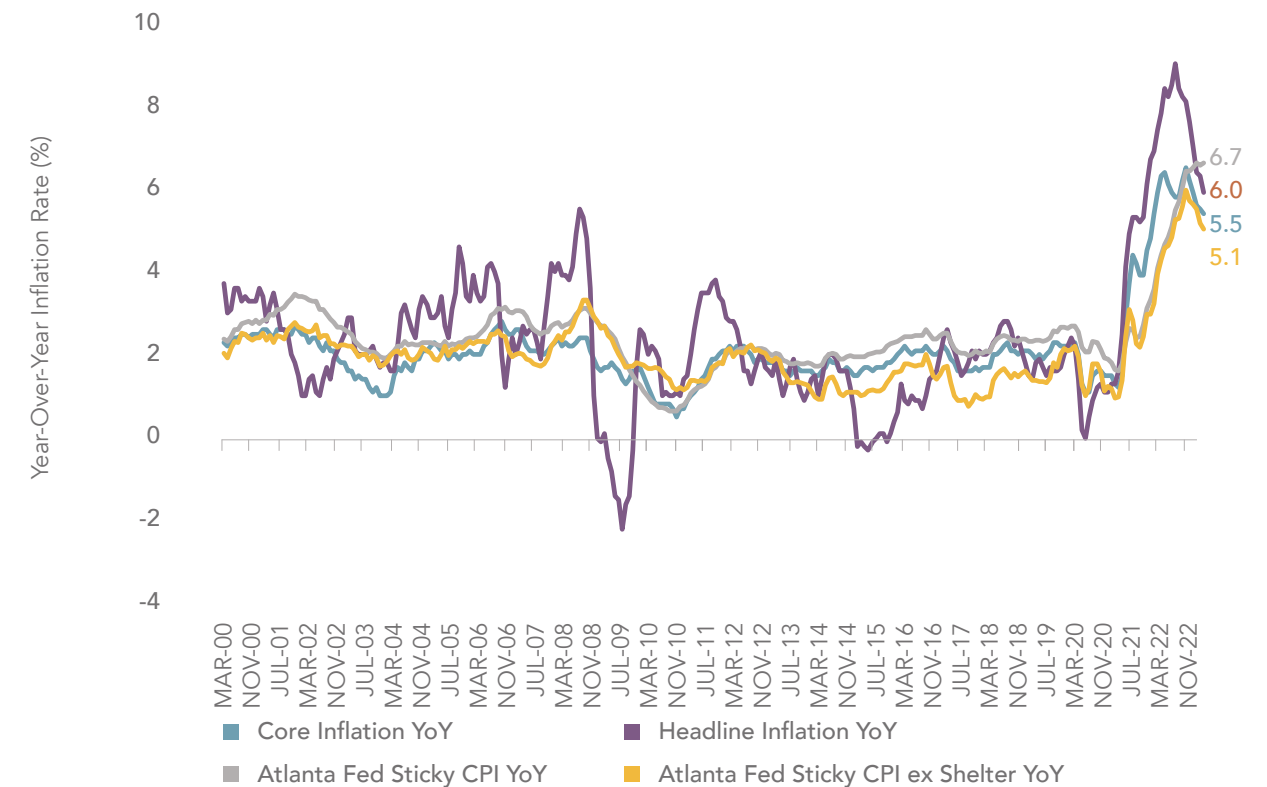


Source: Bloomberg

**DISINFLATIONARY FORCES**

The bankruptcy of SVB and SNBY, together with deposit withdrawals at regional banks, are likely to send deflationary impulses through the economy. Regional and community banks are likely to reduce their loan activity as they beef up balance sheets to strengthen liquidity. Thus, we believe disinflation is likely to accelerate through future CPI and PCE readings. This economic cycle has been expedited due to the recent banking crisis. However, recent readings don't signal an immediate Fed pivot such as a reduction in rates. Core CPI YoY was ~5.5% in February, with Atlanta Fed's sticky CPI running at 6.7% YoY (Exhibit 27). We expect these numbers to soften going forward due to a cooling economy, as well as diminishing base effects as we lap one year on elevated inflation readings.

**EXHIBIT 27: FED POLICY IS WORKING (WITH A LAG)**

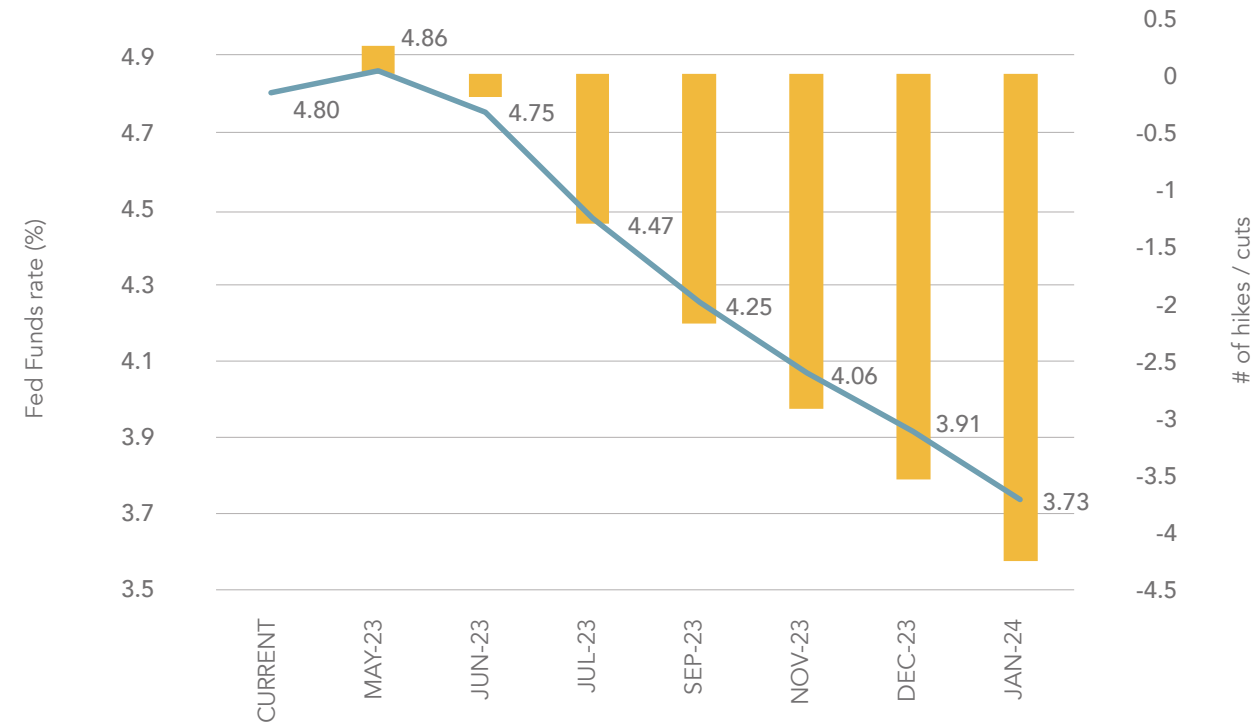


Source: Bloomberg

**MR. BOND MARKET FRONT-RUNS FED**

Financial markets do not wait for the “all clear”. They move first and ask questions later. Such is the price action on Fed Fund futures, which price in forward-looking policy moves. The futures market is now pricing in a pause at the next policy meeting in May followed by rapid cuts by a full percentage point over the second half of 2023 (Exhibit 28). This is notable as Powell has yet to signal any pivot or potential rate cuts. In this regard, the market is looking ahead to significantly weaker economic data / recessionary pressures, and the Fed’s commensurate response. While we generally agree with the bond market, the magnitude of recent rate declines is somewhat overdone, which we attribute to the regional bank crisis.

**EXHIBIT 28: MARKET IS PRICING IN RATE CUTS AFTER SIX MONTHS**



Source: Bloomberg  
■ Number of Hikes/Cuts Priced In — Implied Policy Rate (%)

**LEADING INDICATORS SHAKY**

Our macro dashboard captures a range of lagging, coincident and leading indicators (Exhibit 31). They paint a picture of a U.S. economy feeling the impact of higher interest rates. Availability of commercial and industrial loans to large and small companies has tightened significantly (Exhibit 29). We expect credit to further tighten considering recent banking developments. ISM manufacturing indices continue to show signs of deterioration, with new orders showing contraction and a significant build-up in inventories (Exhibit 30). This bodes well for the fight against inflation.

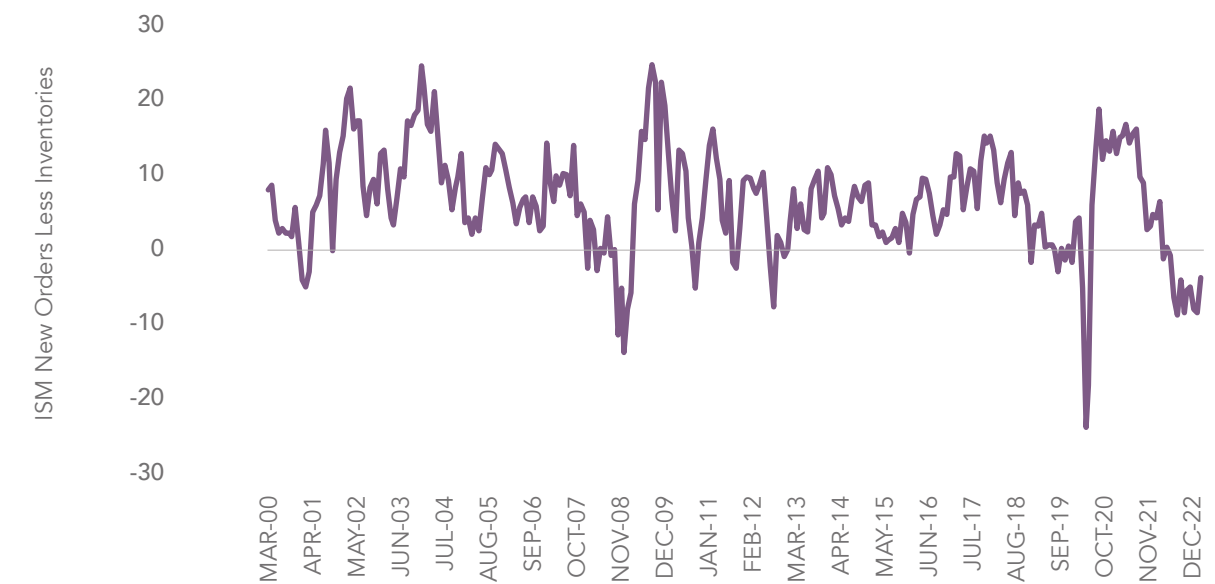
**EXHIBIT 29: CREDIT CONDITIONS FOR SMALL BUSINESSES HAVE TIGHTENED DRAMATICALLY**



Source: Bloomberg

■ Small Firms ■ Large Firms

**EXHIBIT 30: ISM NEW ORDERS LESS INVENTORIES PREDICTS WEAKNESS**



Source: Bloomberg



## EXHIBIT 31: CAP MACRO DASHBOARD APRIL/MAY 2023

INDICATOR	LATEST READING	POSITIVE/NEUTRAL/ NEGATIVE
U.S. Output Gap (Q4 '22)	-0.5	POSITIVE
Nonfinancial Corporate Debt as % of GDP (Q3 '22)	+78.8%	NEGATIVE
St. Louis Fed – Smoothed Recession Model (Jan '23)	+0.9%	NEUTRAL
Conference Board Index of Leading Economic Indicators (YoY change) (Feb '23)	-6.5%	NEGATIVE
Industrial Production (YoY change) (Feb '23)	-0.3%	NEUTRAL
ISM Manufacturing Index (Feb '23)	+47.7	NEGATIVE
ISM Services Index (Feb '23)	+55.1	POSITIVE
Senior Loan Officer Survey – Small Business Lending (Q1 '23 Reporting Stronger Demand)	-42.2%	NEGATIVE
Building Permits (YoY change) (Feb '23)	-18.4%	NEGATIVE
Real Personal Income Ex-Transfer Payments (Jan '23)	+1.6%	NEUTRAL
Consumer Expectations Gap (Present Situation Minus Expectations) (Feb '23)	+83.1	POSITIVE
Non-farm payrolls (Feb '23 3M avg)	+351	POSITIVE
U.S. Unemployment rate (%) (Feb '23)	+3.6%	POSITIVE
12-M U.S. Export Growth (Jan '23 YoY change)	+13.8%	POSITIVE
S&P 500 6M Price Change (%) (Mar '23)	+3.4%	NEUTRAL
Treasury spread (10Y - 3M in bps) (Mar '23)	-116	NEGATIVE
High Yield spread (bps) (Mar '23)	+536	NEGATIVE
<b>M2 SUPPLY 3M GROWTH RATE (JAN '23)</b>	<b>-0.8%</b>	<b>NEGATIVE</b>
<b>FEDERAL FEDS 1YR IMPLIED TARGET RATE (MAR '23)</b>	<b>+4.0%</b>	<b>NEUTRAL</b>
<b>5 YEAR AHEAD 5 YEAR INFLATION BREAKEVEN RATE (MAR '23)</b>	<b>+2.1%</b>	<b>POSITIVE</b>
<b>FISCAL POLICY STANCE (GOVT REVENUE - SPENDING)</b>		<b>NEUTRAL</b>
<b>CURRENT MONETARY POLICY STANCE</b>		<b>NEUTRAL</b>

Source: Congressional Budget Office, Bloomberg, St Louis Fed, Bank of International Settlements, CAP Research.

## APPENDIX: SHARIAH COMPLIANT APRIL/MAY 2023 PORTFOLIO ALLOCATIONS

ASSET CLASS	SUB-CATEGORY	CAP CONSERVATIVE	CAP RESTRAINED	CAP BALANCED	CAP APPRECIATION	CAP HIGH OCTANE
<b>MURABAHA</b>						
<b>SUKUK</b>						
<b>EQUITY</b>	U.S. Large Cap U.S. Mid Cap U.S. Small Cap Europe Large Cap Europe Mid/Small Cap Japan Asia Pacific Emerging Markets Frontier Markets <b>Total Equity</b>					
<b>ALTERNATIVES</b>	Real Estate Infrastructure Commodities <b>Total Alternatives</b> <b>Portfolio Yield</b>					

CLIENT PRIVILEGED <sup>1</sup>

Notes: Real estate includes REITs, private equity real estate, public / private timber, and agriculture companies / assets. Infrastructure includes public companies with exposure to infrastructure activity, MLPs and private investments in infrastructure assets. Commodities include physical commodities, commodity futures and public and private companies engaged in the industrial metals, energy, precious metals, grains, and livestock industry. Totals may not reconcile due to rounding.

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## IMPORTANT DISCLOSURES

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Furthermore, the information contained herein contains certain forward-looking statements, often characterized by words such as "believes," "anticipates," "plans," "expects," "projects," "might," "may," "likely," and other similar words, that indicate future possibilities. Due to known and unknown risks, other uncertainties and factors, actual results may differ materially from the expectations portrayed in such forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date of this report.

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Asset allocation recommendations are provided as a general guideline and do not take into account the specific circumstances of any individual client which could cause such recommendations to vary from the recommendations presented.



