Equity Intelligence Report

August 2023

GAMMA INVESTMENT CONSULTING

Gamma Global Macro Model Highlights

- **The S&P 500 and Nasdaq Models remained neutral (in cash) for August**. Despite a steady five-month climb in equity prices, the combination of the most extreme overvaluation since 2001, high yields on cash and bonds, and the worst liquidity contraction since 1982 are keeping the Model out of the market.

- **The Energy sector climbed back into the top of the sector list as last month's leader, the defensive Consumer Staples sector, slipped to second.** Energy has consistently been among the highest rated sectors for almost a year. The Consumer Discretionary sector continued to languish at the bottom on persistent concerns over an economic slowdown and its potential negative impact on consumer spending

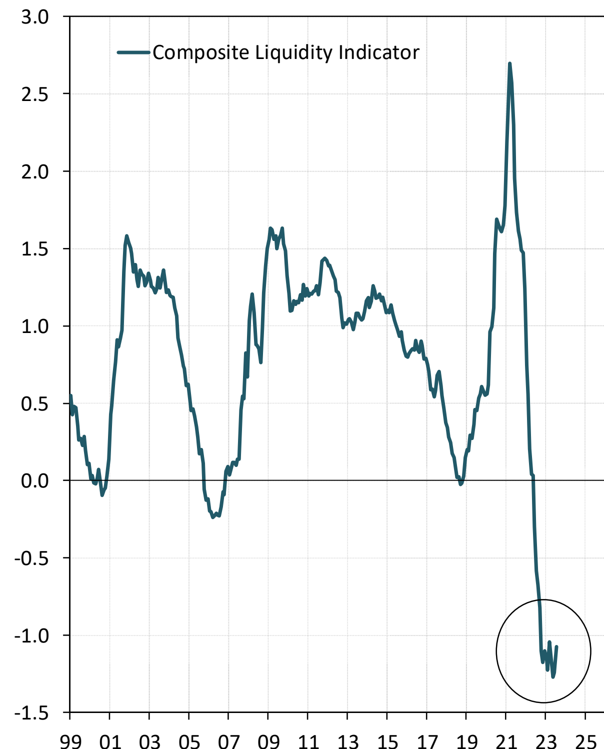
- **The Gold and Gold Mining Share Models went long largely due to attractive valuation.** Gold Mining Shares lagged only the Energy and Consumer Staples sectors for highest expected return for August.

I. Equity Index Outlook

Stocks and the economy continue to defy financial gravity. The S&P 500 rose 3.1% in July, the fifth consecutive monthly increase in a row. The index is now up 19.7% from its December 2022 low. The Nasdaq Composite index gained 4.1% last month, up 35.9% since bottoming seven months ago. Real GDP rose a healthy 2.4% in the second quarter, up from an upwardly revised 2.0% rate in the first quarter and the fourth consecutive quarter of >2% growth. All of these have occurred despite the most severe liquidity contraction in 40 years (Chart 1) and during the seasonally worst time of the year for equities. The combination of restricted liquidity and the most extreme overvaluation in stocks since 2001, however, is keeping the Gamma S&P 500 and Nasdaq Models neutral (in cash) for August (Chart 2).

CHART 1

Composite Liquidity Indicator



Normally I would discuss the reasons behind our Model's current positioning. Given the market's ability to stay afloat despite a near-record contraction in liquidity, we would like to start this month's Report with a discussion of how we got to where we are. We can then examine whether several alternatives to our predicted scenario of lower stock prices make sense.

Since my arrival in the financial markets in October 1979, I have seen numerous crises come and go, all of which were accompanied by cries that "this is the big one." To put this into perspective, the S&P 500 in September 1979 was at 85.5. It's now at 4,759.2 – a 5,470% increase (and that doesn't include dividends). All of this occurred despite the worst inflation in U.S. history, record high interest rates, the collapse of the Soviet

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Union, two middle east wars, the rise of China, the dot com and real estate market collapses, and a global pandemic. The point is that as long as productive capacity – people and capital – are not destroyed, growth continues and compounds.

For that reason, we at GIC are neither perpetually optimistic nor pessimistic. We prefer to let the data speak for itself. The data at the moment, however, is screaming "caution." Exploding federal debt combined with the Federal Reserve's monetizing large portions of that debt has created a Catch-22 which will likely require some combination of higher taxes, higher interest rates, serious budget cuts, and possibly a severe recession to resolve.

The last time the federal government ran close to a balanced budget was in 2000 under President Clinton and Speaker-of-the-House Newt Gingrich. Spending has since gone from merely irresponsible under George W. Bush to recklessly incompetent under Obama, Trump, and Biden (Chart 3). Under Bush's Iraq war and Afghanistan intervention, the deficit climbed by $5 trillion over eight years. The 2008-2009 financial crisis added $9.3 trillion largely due to bank bailouts and economic "stimulus," also over eight years. Under Trump, pandemic stimulus spending added a staggering $18.2 trillion in new debt in just four years. Under Biden's absurdly-named Inflation Reduction Act, debt has ballooned anther $5 trillion in only 30 months and is likely to top $7 trillion by year-end.

The massive expansion in deficit spending is more than enough reason for concern. We noted in a previous issue that this tsunami of borrowing has channeled huge amounts of capital from productive investment into current consumption. The result has been a decline in the real trend growth rate of the economy from over 3% a year in the 1970's to only 1% over the last ten years.

Even more disturbing is how much of this debt has been financed. Under a fiat monetary system (a system in which the currency is not convertible into a real tangible asset such as gold or silver), money is literally created out of thin air by the central bank. The Federal Reserve can indirectly "monetize" the federal government's debt by purchasing previously auctioned Treasury securities with newly-created paper (fiat) money.

CHART 2

USA: S&P 500 Model Forecast

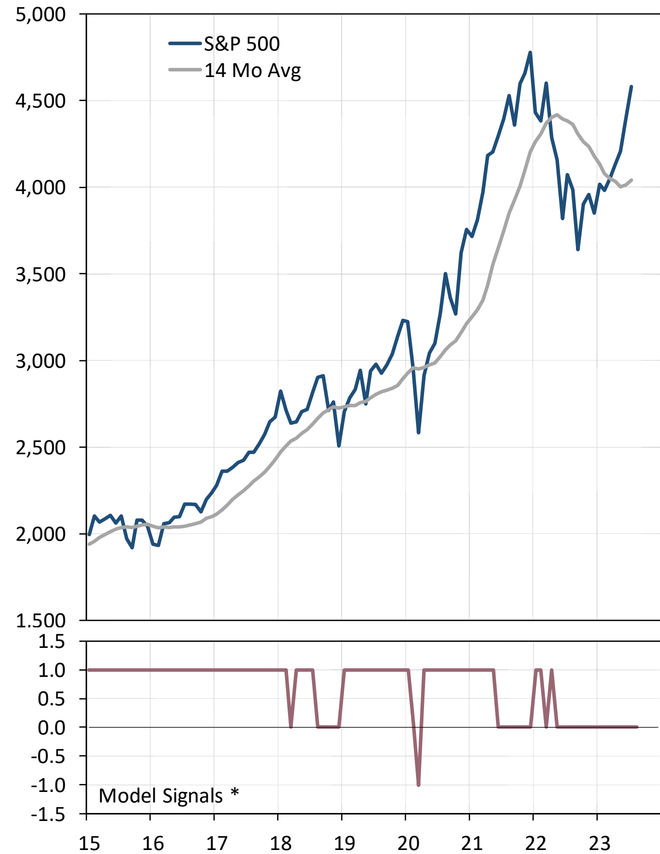

CHART 3

Federal Government Debt (Trillion $)

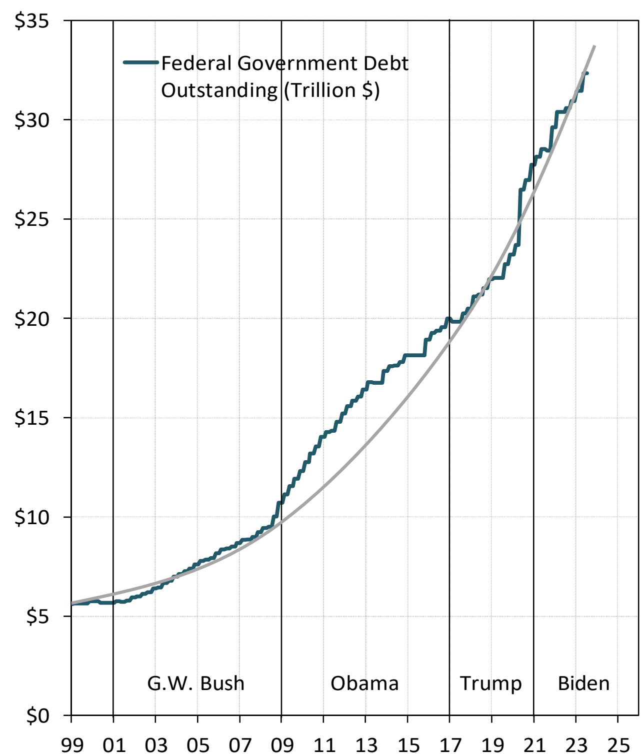

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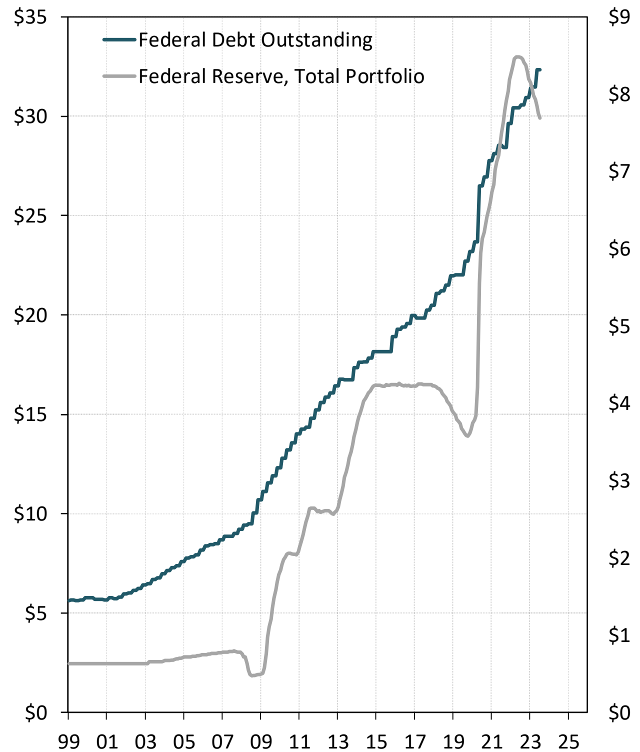
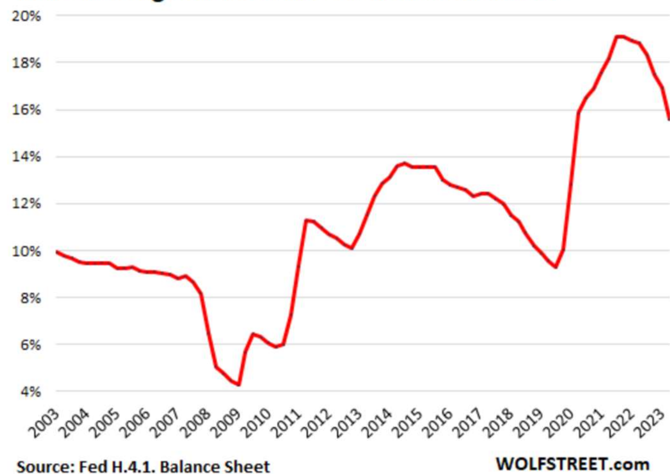
Chart 4 illustrates the relationship between growth in federal debt outstanding and the expansion of the Federal Reserve's holdings of Treasury securities and mortgages (MBS). Between 2009 and 2015, the Federal Reserve purchased over 45% of all the net new debt issued by the U.S. Treasury. In the past, such an expansion of the Fed's balance sheet would have set off a wave of inflation. Instead, CPI inflation in 2009-2015 averaged a paltry 1.4% a year.



The Fed was able to get away with this without a surge in inflation because most of the money from these Treasury purchases ended up recapitalizing banks and in bank reserves held at the Federal Reserve. The Fed instituted a program in which banks could earn interest on their reserves. By offering a competitive market rate on reserves, banks were incentivized to not lend the money out. Lending would have caused the money supply to expand leading to higher prices. During that period, many banks crippled by the 2008-2009 financial crisis had little desire to add additional loans to already impaired balance sheets. What lending that did take place was of low risk and often included loans for such things as corporate stock buybacks which tended to boost the value of the collateral for the loans. As a result, this huge expansion of the Fed's balance sheet tended to keep liquidity in the financial sector where it bid up the prices of financial assets rather than the prices of goods and services.

The Covid pandemic period is another story. Between March 2020 and March 2022 when the Fed began tightening, the Treasury issued $6.9 trillion in net new debt. The Fed dutifully purchased over $3.3 trillion of that debt as its balance sheet exploded by $4.6 trillion. By the end of 2021, almost 20% of total federal debt was paid for with newly-created money (Chart 5). Unlike the 2009-2015 period, when most of the Fed's liquidity creation remained within the financial sector, this time the bulk of the pandemic unemployment benefits, stimulus payments, and loans went directly to individuals and businesses. The result was an unprecedented 80% increase in the U.S. money supply that fueled a spending binge that caused the worst surge in inflation since the early 1980's.



In order to bring worsening inflation under control, the Federal Reserve started raising interest rates in March 2022. The intention was to slow the economy enough to bring the inflation rate back to the Fed's 2% annual target which would eventually allow the Fed to reduce rates back to a 2-3% rate. The Fed has now raised rates 11 times for a total of 5.25%. To most everyone's surprise, however, the economy hasn't slowed and actually accelerated in the second quarter; the unemployment rate at 3.5% has remained just above the cycle low of 3.4% hit in April. The lack of recession, the temporary surge in Federal Reserve discount window borrowing

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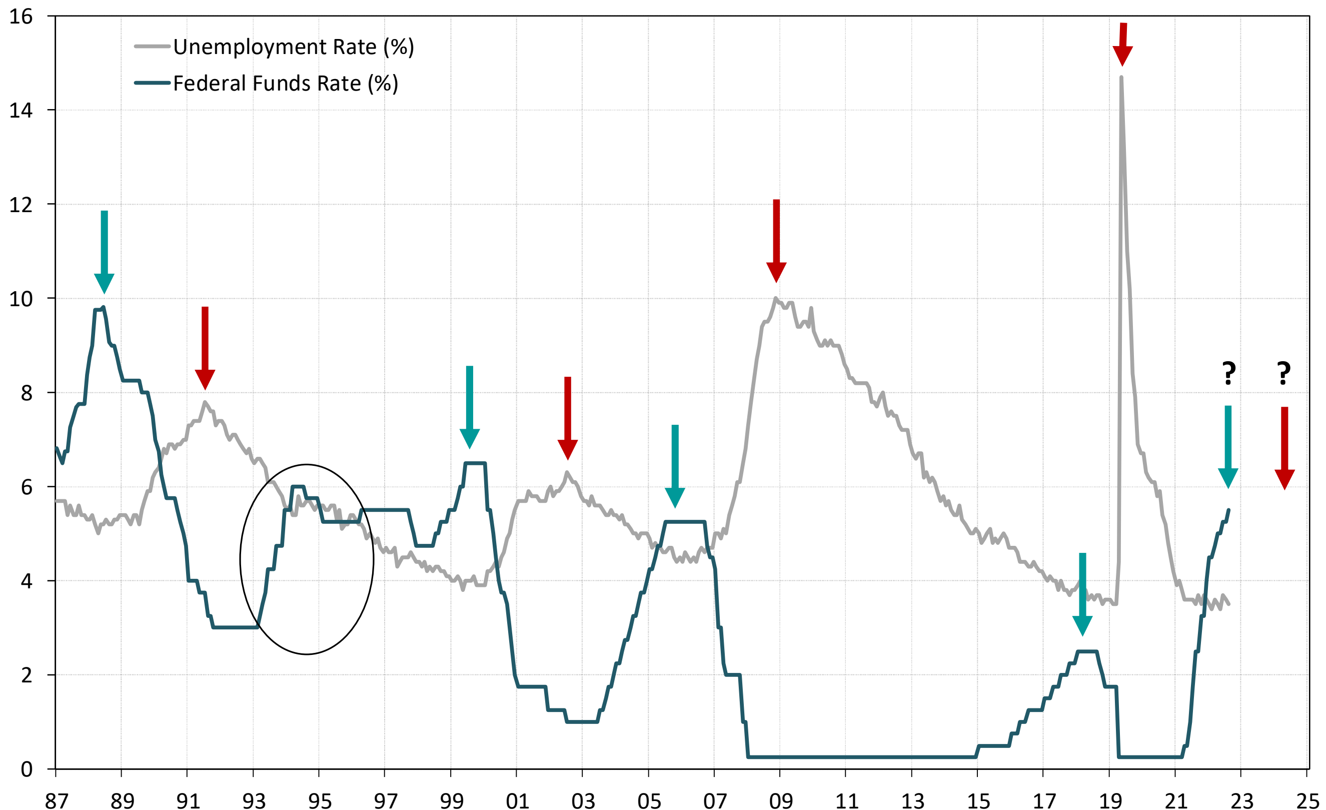
during March's regional bank failures, and the belief that inflation would continue to fall allowing rates to peak and then fall seemed to signal that it was "safe to go back in the water." The result has been the stock rally since the end of last year. An increasing number of economists now anticipate a "soft landing" for the economy as the rally has extended and economic growth has stabilized. The reversal follows the announcement that the staff of the Federal Reserve is no longer forecasting a recession.

The problem we see with this "soft landing" scenario is that nothing has changed to indicate that a recession won't happen other than that a recession hasn't happened yet. In other words, all the preconditions for a recession - higher interest rates, weak money growth, an inverted yield curve, weakness in the index of leading economic indicators, above target inflation – have not changed. Because of that, we believe that the economy will slide into a full recession in 2024.

Historically, virtually every cyclical peak in equities has occurred months or even years after the Federal Reserve began tightening. For example, before the 1974 bear market - when the S&P 500 dropped -46% - the index peaked in December 1972 nine months after the Fed began raising rates. The Federal Reserve began raising interest rates in August 1977, but the S&P 500 did not peak until November 1980. Before the dot.com collapse, the Fed began raising rates in June 1999, but the peak in the S&P did not occur until August 2000. Most recently, the central bank began to raise rates in June 2004. The peak in the S&P 500 before the 2008-2009 financial crisis did not occur until 35 months later in October 2007. Not only did the market drop -53% from its high, but it also dropped -34% below its level when the Fed began tightening. In the current cycle, equity prices peaked in December 2021 – three months before the Fed's first rate hike in March 2022.

Given these lags, the equity market may extend its recent gains as long as the labor market remains firm. We also believe, however, that the market is underestimating the time needed for tighter monetary policy to impact equity prices. Add to this our view that the Federal Reserve is not yet done tightening, and we continue to anticipate that equities have another major leg down before finding a floor.

CHART 6



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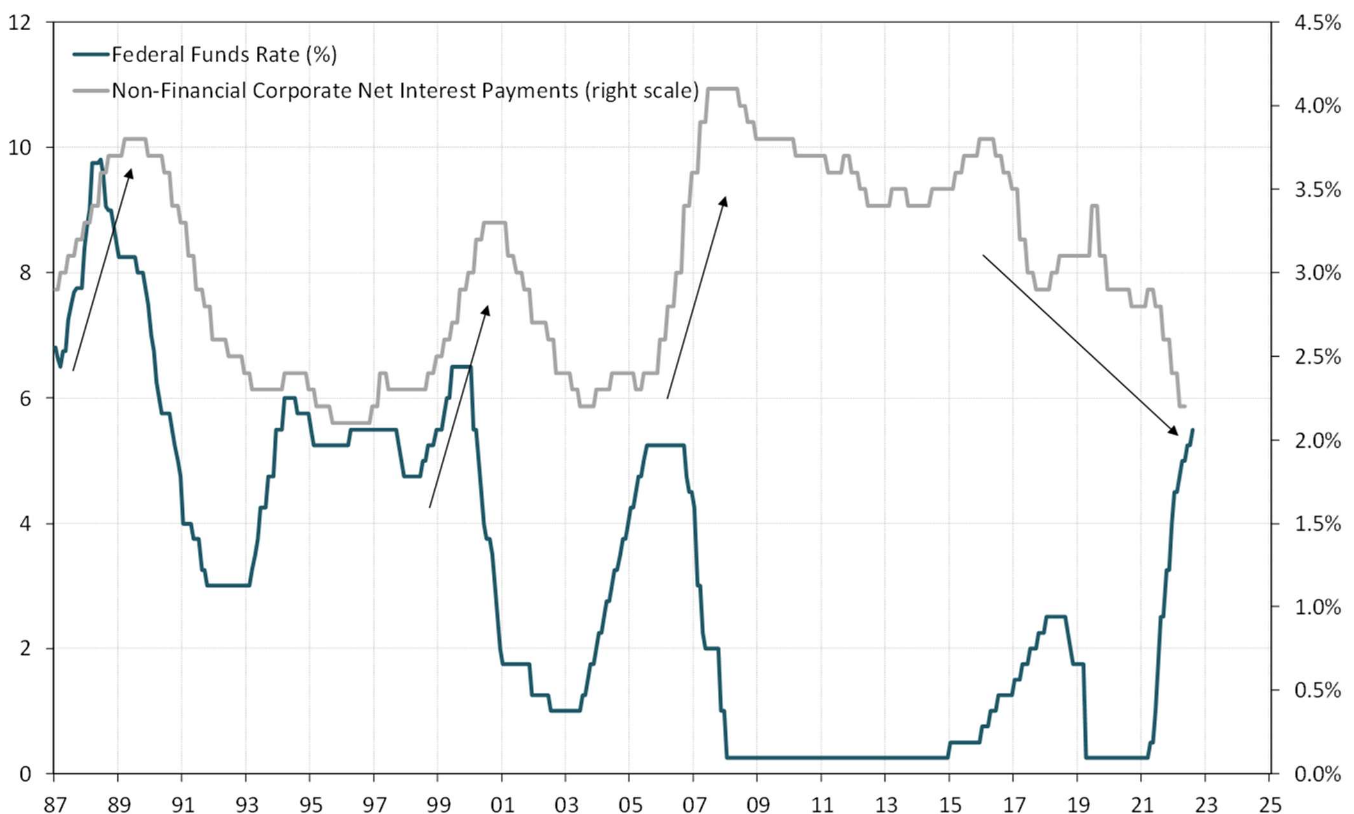
- **The economy and labor market remain solid, BUT**. Investors routinely believe that lower interest rates and strong economic growth are inherently supportive of stock prices. History suggests otherwise. Chart 6 shows the lag between peaks in the Federal Funds rate and subsequent bottoms and peaks in the unemployment rate. The unemployment rate has almost always bottomed out near the top of a tightening cycle. The subsequent peak in unemployment has occurred on average 2.5 years after the Federal Reserve stops tightening. Many analysts, including ourselves, expected the speed and magnitude of the Fed's rate hikes to cause at least a moderate slowing in the economy by the mid-2024. We believe that the expansion of liquidity following the Covid pandemic was so extreme that it has delayed a recession and has created the illusion of a "soft landing." **If history is any guide, a "hard landing" is coming but its timing may not be until well into 2024.**
- **Corporate earnings *may* be bottoming, BUT**. We noted in last month's Report that corporate earnings may be showing signs of recovering from their sharp decline. Earnings growth in the S&P 500 has fallen from a record 68% yr/yr rate eighteen months ago to a -9.2% rate in July. The yr/yr rate improved to a -7.1% rate last month, and 12-month earnings momentum has recovered sharply since the beginning of the year. The sharp reversal in earnings growth has had only a modest negative effect on equity prices. While the size of the reversal has been large, the actual earnings decline is still well above the -24% rate in 2002 and the -33% drop in 2009.

  In addition, earnings which are normally depressed by rising interest rates due to the increased cost of borrowing, have actually been a positive contributor to earnings during this cycle. In contrast to previous cycles, since the Fed slashed interest rates to near zero in 2008 and again in 2020, corporations have taken advantage of the record low rates to lock in longer-term financing. Historically, a rise in interest rates has driven interest payments up for corporations which had adversely impacted earnings. In the last two



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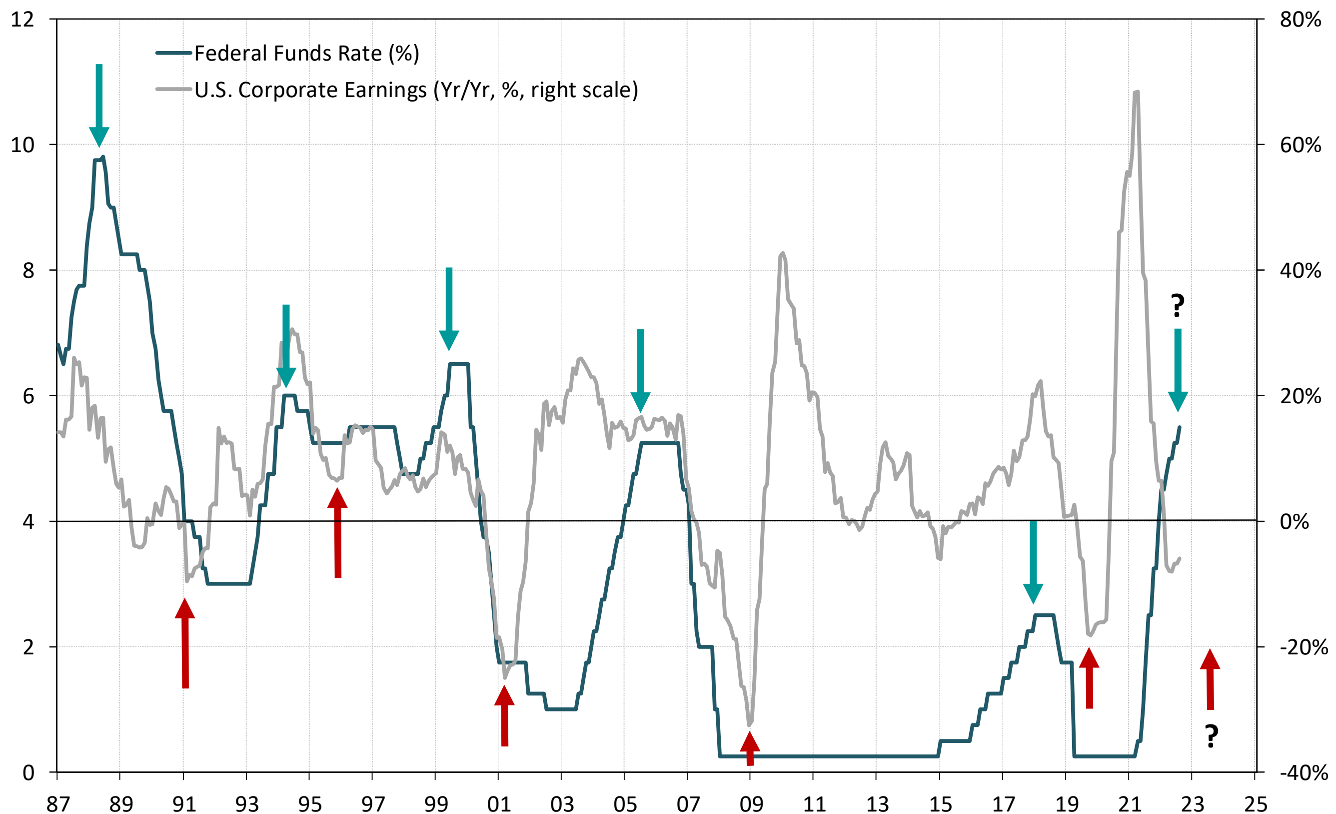
cycles, however, companies have invested large portions of the borrowed cash into short-term instruments, thus earning more on their short-term cash than what they are paying on their long-term loans (Chart 7).

The maturity of corporate loans averages about 4-6 years. With the Fed only 17 months into their tightening cycle, only about 30% of long-term loans have repriced at higher interest rates. For that reason, weakness in corporate earnings may be mitigated until repriced loans reach over 50%. As this refinancing occurs and the lagged effect of monetary tightening becomes more pronounced, we believe that a further contraction in earnings is likely as the real recession sets in next year (Chart 8).

CHART 8

Fed Funds Rate vs Corporate Earnings



- **Core inflation is still well above the Fed's 2% target**. The inflation rate remains the prime motivator of Federal Reserve policy as long as economic growth remains robust. Headline inflation fell to a 4.1% yr/yr rate last month since peaking at 8.9% eleven months ago (Chart 9). The problem is that most of this decline has occurred due to a sharp drop in commodity prices. Energy and food prices have fallen -39% and -19%, respectively, from their highs. Excluding food and energy, "core" consumer prices were still up 4.9% yr/yr in July, and services inflation (a sector that accounts for over 2/3rds of the economy) was up a whopping 6.2%. In addition, announced production cuts in oil output by OPEC and Russia for the second half of 2023 are already impacting prices. Energy prices rose 2.5% last month, the first increase in six months. Food prices rose 5.3% after falling steadily since the end of 2022. Average hourly earnings of production and non-supervisory employees – the bulk of total employment – rose by 0.45% in July from June, the biggest increase since last November. That translates into an annual rate of 5.5%, nearly

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double what the Fed wants to see to get inflation down to 2%. Year-over-year, average hourly earnings rose 4.8% in July, also an acceleration from June's 4.7%. Given these numbers, it would take only a moderate rise in food and energy prices to boost the inflation rate back above 5%.

- **Short-term interest rates will continue to rise**. The CME's FedWatch Tool indicates that the market expects that the Federal Reserve is done raising rates for this cycle and that the central bank will begin to cut rates by early 2024. Our belief is that the risk of an inflation surprise lies to the upside, and that any such surprise would prompt at least another interest rate hike. The Federal Reserve Bank of Atlanta's GDPNow model estimate for real GDP growth for the third quarter of 2023 was revised up this week from 3.5% to 3.9%. After the second quarter's surprisingly strong 2.4% increase in real GDP and the first quarter's upward revision to 2%, an increase anywhere close to 3.9% would likely trigger a new round of rate hikes. The current disconnect between growth expectations and current interest rate expectations leaves the equity market adversely exposed to any unexpected Fed rate hike.

CHART 10

Interest Rates: United States

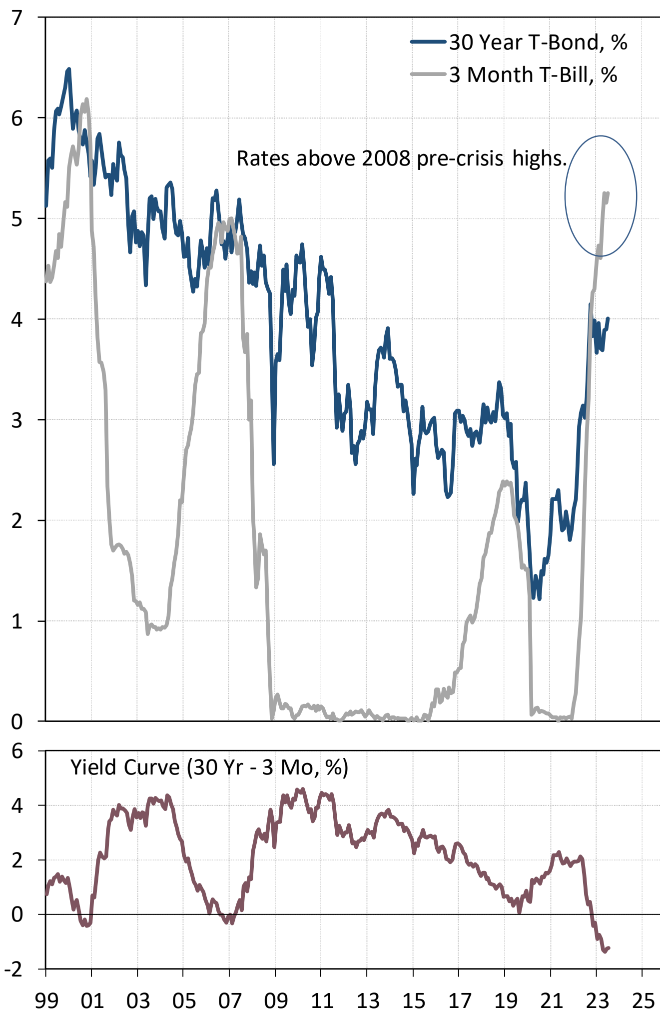
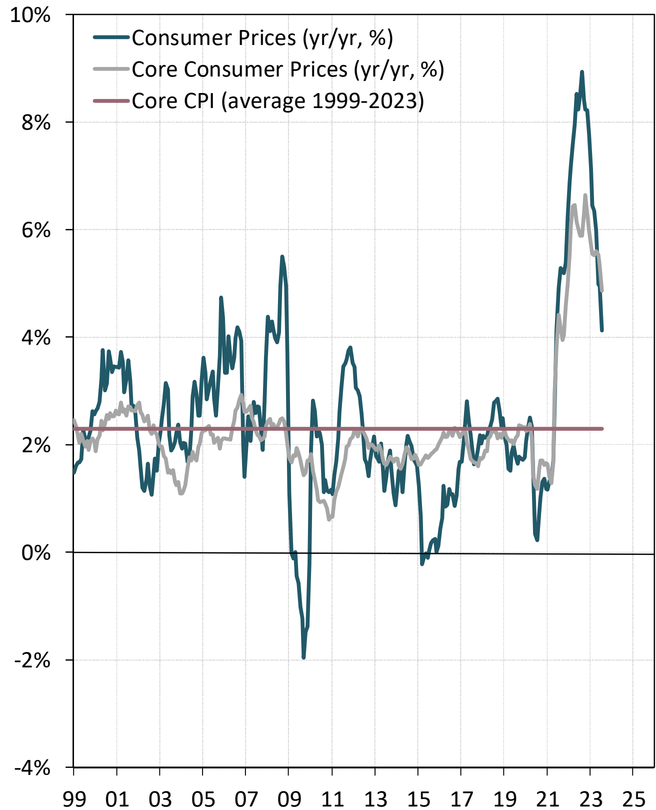


CHART 9

Inflation Measures



- **The yield curve remains extremely inverted.** The 2-10 Treasury yield remained strongly inverted at -0.93% last month as 2-year rates eased slightly following the previous month's GDP-fueled jump. The 2-10 curve remains close to its most extreme inversion since 1981. The 3-30 curve was largely unchanged at -1.24% (Chart 10). **Both curves remain indicative of a very restrictive monetary policy.** Both are likely to contribute to even weaker money growth which has already fallen at the most extreme rate since the 1930's. If a recession fails to materialize, it will be the first time since WW II that an inverted yield curve has not preceded a recession and an equity bear market. While it is certainly possible

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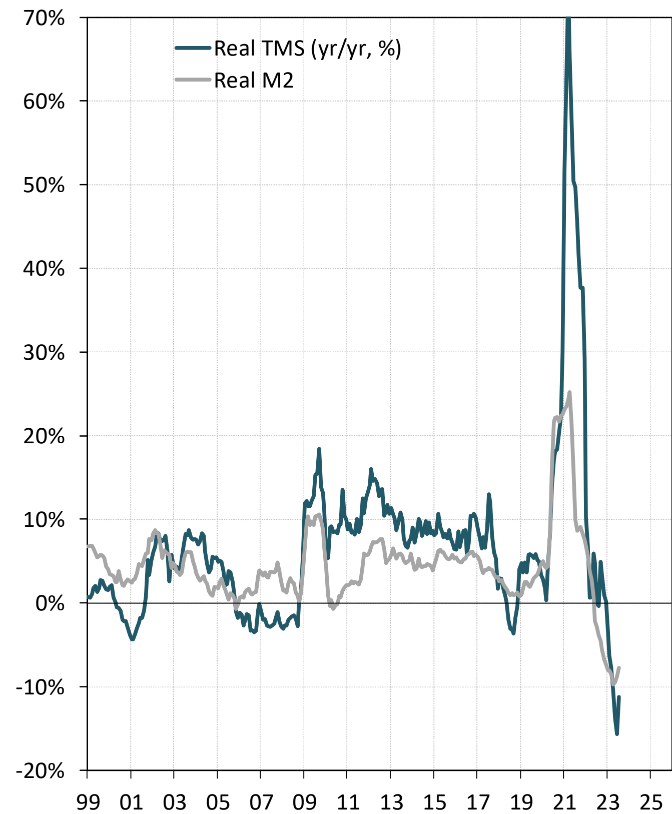
that "this time is different," our experience has been that just about the time markets start to believe it is when reality comes crashing down.

- **<u>Every measure of real money growth remains strongly negative</u>**. Both nominal and inflation-adjusted measures of True Money Supply (TMS) improved slightly last month due a surge in Treasury balances as the government rebuilds its cash following a hike in the debt ceiling. Nominal TMS was down -11.2% yr/yr last month compared to -15.6% in June. Real TMS was down -7.1% compared to -10.7% the previous month (Chart 11). **Despite the improvement, the decline in both measures is the second largest since the bank failures of the 1930's.** Real M2 was down -7.7% yr/yr. Nominal M2 contracted -3.6%, about unchanged from June. All the measures are indicative of a severe contraction in liquidity which is likely to worsen due to the persistent inversion of the yield curves and rapidly falling loan growth. Total banks loans declined -0.1% last month, the first monthly decline since February 2021. The Federal Reserve also released its quarterly Senior Loan Officers Opinion Survey on Bank Lending Practices (SLOOS) which showed that bank lending standards tightened across most products. It also showed that in the last 30 years, only during Covid and the 2008-2009 financial crisis have commercial and industrial loans been more difficult to get than now. We can't help but wonder how much longer economic growth can defy the gravity from the contraction in credit availability.

CHART 11



- **<u>Equities have become even more overvalued</u>**. Investors may be cheered by the rise in stock prices this year, but the rally in the face of rising interest rates has pushed valuation to its most extreme level since 2002 (Chart 12). The persistent overvaluation of equities despite a record liquidity contraction continues to be the biggest puzzle of the current cycle. The S&P 500 peaked at 1.32 standard deviations overvalued (28%) in April 2021. That was the highest level of overvaluation since October 2002 and came on the back end of the dot.com collapse. The drop in the S&P 500 from mid-2021 through late 2022 caused valuation to converge close to fair value. Since then, valuation has steadily worsened as stocks have risen despite weaker earnings and much higher interest rates. Overvaluation for the S&P 500 hit 1.43 standard deviations last month (30%), the second most extreme reading in the last twenty years. Nasdaq valuation hit an even more extreme level of 1.73 standard deviations (48%), the highest level since March 2002.

Table 1 illustrates the implication of this extreme valuation on future expected returns. The table shows what annualized returns have been in the past when valuations were at these levels. For example, when the

TABLE 1

VALUATION vs FORWARD RETURN ANALYSIS - ANNUALIZED RETURNS **Updated: 07/31/23**

Country	Valuation (σ)	Valuation (%)	Valuation-Based Forecast (Annualized, %) 1 Mo	3 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr
United States	+1.53	+30%	-2.4%	-1.1%	-1.0%	0.5%	3.7%	5.3%	6.1%
S&P 500	+1.43	+30%	1.1%	1.1%	1.1%	2.5%	5.3%	6.6%	6.9%
Nasdaq	+1.73	+48%	-6.1%	-6.1%	-5.8%	-5.3%	-0.5%	2.4%	3.0%
S&P 600 Small Cap	-0.44	-7%	19.1%	18.8%	18.3%	17.5%	15.1%	13.7%	13.2%

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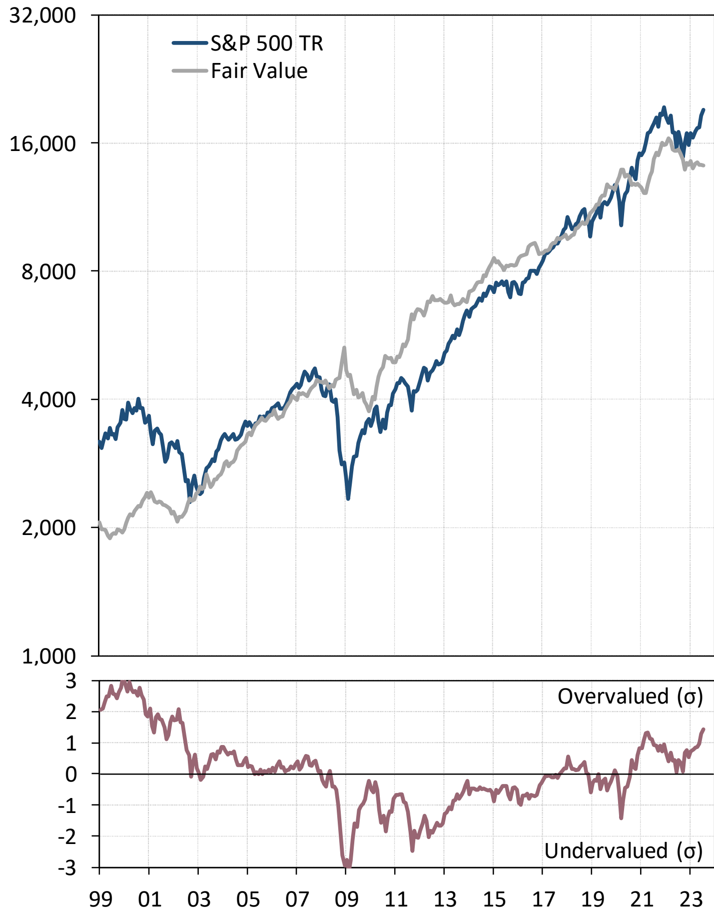
S&P 500 was 30% overvalued, the subsequent average one-year return was only 2.5%, well below the long-term average of 12% and well below current one-year interest rate. The outlook for the Nasdaq is even more stark. At the current 48% overvaluation, the Nasdaq has historically **lost** an average of -5.3% in the next year. Looking out further, such extremes of valuation have been followed by prolonged periods of underperformance. For example, the annual return over the next three years has averaged only 2.4%. Even the average five-year return has averaged only 3% - both well below current three- and five-year Treasury and corporate yields.

CHART 12



Over the last twenty years, the S&P 500 earnings yield has averaged about 1.2% higher than the yield on high-quality corporate bonds. Since September 2022, however, the earnings yield - corporate bond yield spread has been negative and currently is at its most extreme level since 2008. We remain extremely concerned by the equity market's persistent overvaluation in the face of a sustained rise in interest rates and contraction of liquidity. **Despite interest rates 5% higher than April 2022, equities are more overvalued now than at the beginning of the current bear market. As we have repeatedly warned, no recovery from a major bear market low has occurred in the last 60 years when stocks were not at least fairly-valued. On average, new bull markets launched when stocks were 25% undervalued. Stocks would need to fall over 50% from current levels to reach that level of valuation.**

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II. Equity Sector Outlook

Sector forecasts changed significantly for August (Table 1). Energy reclaimed the top spot, displacing last month's leader, Consumer Staples. Energy has held the top position for six of the last eight months initially on the surge in energy prices last year and most recently on attractive valuation. A recent recovery in energy prices driven by oil production cutbacks by Russia and OPEC and a gradual improvement in the massive oversupply situation in natural gas storage has helped push energy prices up 23% from their June lows (Chart 13). The energy sector is also benefitting from strong support from its extreme undervaluation. According to the Gamma Sector Valuation Models, the Energy sector is by far the cheapest of all the sectors at -2.65 standard deviations undervalued (-54%) (Table 2).

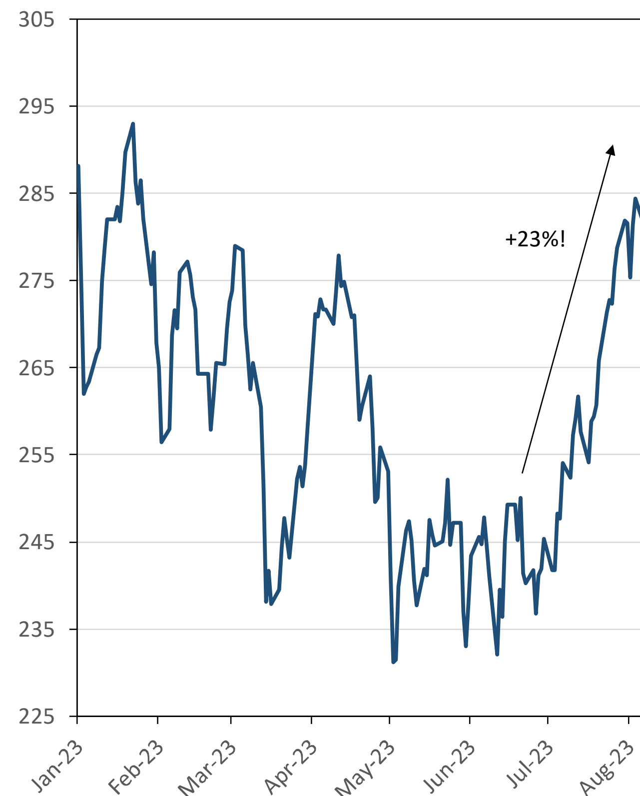
TABLE 1
1 MONTH STOCK SECTOR FORECASTS (%)

Sector	Ticker	1 Mo Forecast
Energy	XLE	0.72%
Consumer Staples	XLP	0.31%
Gold Miners	---	0.29%
Health Care	XLV	0.13%
Technology	XLK	0.11%
Materials	XLB	-0.06%
Communications Services	XLC	-0.13%
Financials	XLF	-0.24%
Utilities	XLU	-0.30%
Real Estate	XLRE	-0.37%
Industrials	XLI	-0.53%
Consumer Discretionary	XLY	-1.15%

TABLE 2
SECTOR VALUATION ANALYSIS

Sector	Valuation (σ)	Valuation (%)
Consumer Discretionary	+2.54	+63%
Communication Services	+2.26	+63%
Technology	+1.95	+65%
Utilities	+1.87	+27%
Health Care	+1.37	+31%
Materials	+1.21	+19%
Industrials	+0.92	+20%
Consumer Staples	+0.16	+4%
Financials	-0.16	-4%
Real Estate	-0.31	-9%
Gold Mining Shares	-1.17	-35%
Energy	-2.65	-54%

CHART 13



The Consumer Staples sector slipped into the second spot this month with an August forecasted return of 0.31%, but it still remained among the sectors with a positive expected return. The sector has generally remained among the top picks over the last three months largely because of the Gamma Model's expectation that economic growth and consumer spending are likely to slow. As discussed above, recent employment and GDP growth remain solid, but the weakness in the Index of Leading Indicators, tightening credit standards, and weak money growth point to a more substantial slowdown as we head into 2024. The defensive Consumer Staples sector is likely to benefit from a more difficult consumer environment. Unlike Energy, however, Consumer Staples are unlikely to get much support from valuation, which remains neutral at a very modest +0.16 standard deviations (+4%).

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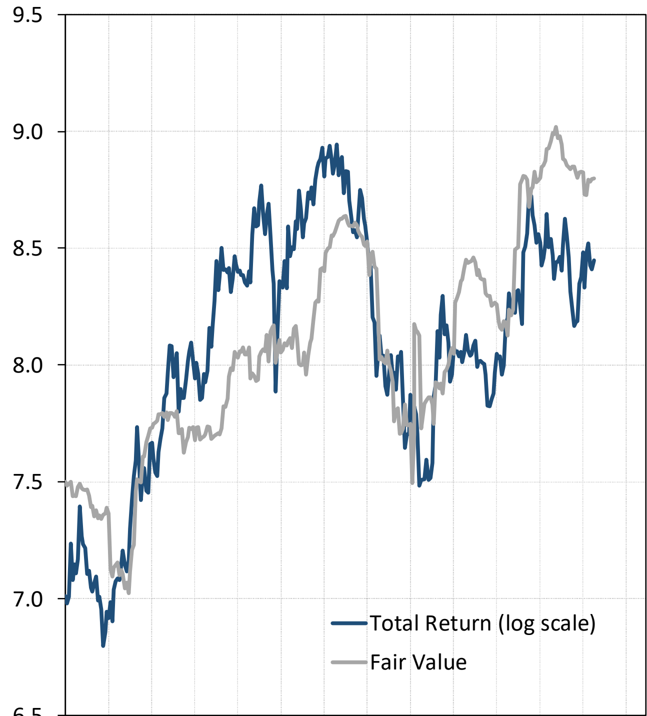
Third on this month's list is Gold Mining shares. Like the metal itself, Gold Mining shares are stuck between the competing forces of high and potentially higher interest rates and attractive valuation. Gold Mining shares were still -1.2 standard deviations undervalued last month, an improvement from -2.1 standard deviations in September 2022. Gold Mining share prices have struggled to reach their July 2020 peak and have instead fallen back to two standard deviations undervalued twice since then (Chart 14). Also, unlike gold which has risen steadily with a couple corrections since bottoming in October 2022, gold shares have struggled.

Recent comments by Fed officials are sending a mixed message to the precious metals markets. Several regional bank presidents have hinted that the Fed has done enough, while Federal Reserve Bank Governor Michelle Bowman said she "believes rates have further ground to climb to bring inflation to target." We have discussed earlier that the economy may be nearing an inflection point where economic activity slows enough to introduce some slack into the tight labor market. At that point, core inflation and services inflation are likely to head lower which will give the Fed the room they need to ease interest rates. Until then, the expectation of higher rates will likely prevent gold and gold shares from making much headway. Both may remain range-bound until rates peak, though as we noted, selloffs should be used to add to long positions. Historically, corrections from undervaluation extremes tend not to stop when a market returns to fair value. Once the Fed starts to cut rates, we expect gold and gold shares to rally strongly to well above their fair-value levels.

On the other extreme is the Consumer Discretionary sector which remained dead last for the third month in a row with an expected loss of -1.15%. The sector is extremely overvalued and highly susceptible to even a moderate slowing in consumer spending. It also has the unfortunate distinction of being the most

CHART 14

Equity Valuation: Gold Shares



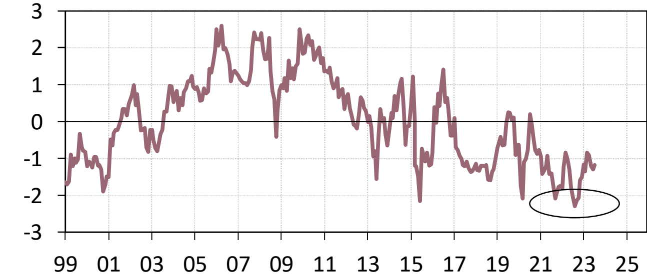
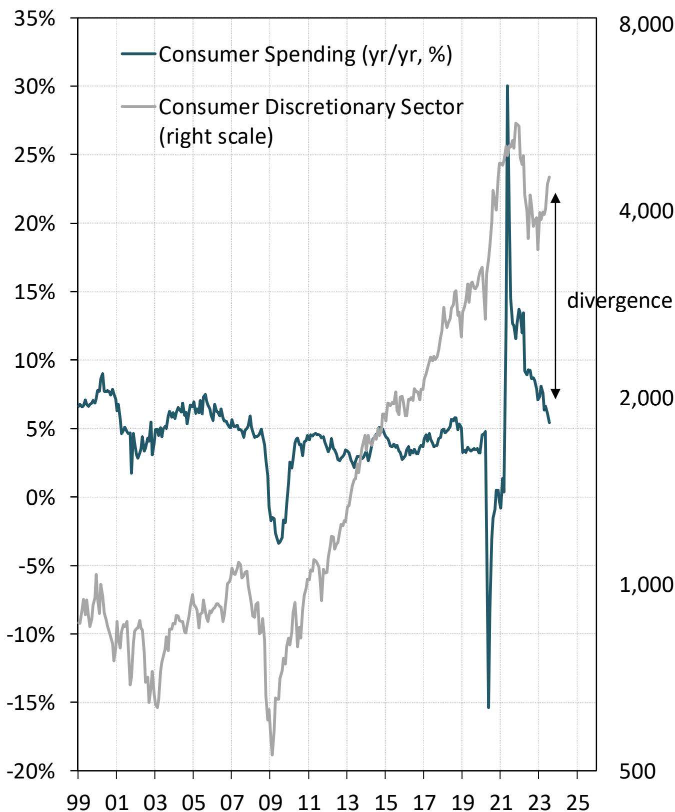


CHART 15

Consumer Spending vs Consumer Discretionary



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overvalued sector at +2.54 standard deviations – a whopping 63% above fair value (Table 2).

Consumer Discretionary stocks skyrocketed in the aftermath of the wave of Covid-fueled unemployment benefits and stimulus payments. Consumer spending exploded from a -15.3 yr/yr decline in April 2020 to a 30.1% yr/yr gain in April 2021. That surge in spending sent Consumer Discretionary stocks up over 100% and pushed the sector to over 2.5 standard deviation overvaluation (65%). The sector subsequently sank -30% from its peak, overvaluation dropped to 0.9 standard deviations (22%), and has since rallied 17% from its February lows. This has occurred despite personal consumption expenditures falling steadily to only a 5.4% yr/yr rate last month. The divergence between slowing consumer spending and rising stock prices (Chart 15) has caused valuation in the sector to return to +2.45% standard deviation overvaluation (63%).

III. Stock Recommendations and Review

The Gamma Company Model starts August with 15 names on our "hold long" list of companies. Diamondback Energy (FANG) was removed from the recommended list due to a negative return forecast for August. No other companies were removed from last month's list as all the other names continue to have expected return forecasts well above the average for the S&P 500 stocks (Table 3). No companies were added because the highest rated names came from sectors with negative expected returns. The Program will only recommend those companies with high expected returns, positive factor momentum, and that are part of sectors with positive expected returns.

TABLE 3

GAMMA COMPANY MODEL - Recommended List Performance — As of: Jul 31, 2023

Sector	Ticker	Entry Price	Closing Price 7.31.23	% Change	Trade Date	S&P 500 % Change	Excess Return
Altria Group, Inc.	MO	$47.63	$45.42	-4.6%	12.2.22	12.7%	-17.3%
Celanese Corp.	CE	$122.12	$125.39	2.7%	2.6.23	11.6%	-8.9%
Centene Corp.	CNC	$63.21	$68.09	7.7%	3.31.23	16.1%	-8.4%
DaVita Inc.	DVA	$90.36	$101.99	12.9%	4.28.23	10.1%	2.8%
EQT	EQT	$41.13	$42.18	2.6%	6.30.23	3.5%	-1.0%
Henry Schein Inc.	HSIC	$78.31	$78.79	0.6%	3.1.23	16.1%	-15.5%
Kroger Co.	KR	$47.57	$48.64	2.2%	12.2.22	12.7%	-10.5%
McKesson Corp.	MCK	$313.34	$402.40	28.4%	6.10.22	17.6%	10.8%
ONEOKE Inc.	OKE	$68.20	$67.04	-1.7%	2.6.23	11.6%	-13.3%
PG&E Corporation	PCG	$17.11	$17.61	2.9%	4.28.23	10.1%	-7.1%
Pulte Group	PHM	$57.48	$84.39	46.8%	2.6.23	11.6%	35.2%
Sempra	SRE	$143.53	$149.02	3.8%	5.31.23	9.8%	-6.0%
Skywork Solutions Inc.	SWKS	$93.96	$114.37	21.7%	12.2.22	12.7%	9.0%
WEC Energy	WEC	$87.35	$89.86	2.9%	5.31.23	9.8%	-6.9%
						AVERAGE	-2.7%

The portfolio overall lagged the S&P 500 return by -2.7% at the end of July. Most of this underperformance is due to the lack of high-flying tech names on our list. Most of the return on the S&P 500 this year has been fueled by the so-called "Magnificent 7." The explosive growth of a handful of tech giants has played a pivotal role in the market's gain this year. Companies like Apple (AAPL), Microsoft (MSFT), Alphabet (GOOGL), Amazon (AMZN), Nvidia (NVDA), Tesla (TSLA) and Meta Platforms (META) have all seen impressive gains since the beginning of the year despite being in the most overpriced sectors after Consumer Discretionary. Communications Services at the end of July was overvalued by 2.26 standard deviations. Technology was overvalued by 1.95 standard deviations. The gains by these companies have disproportionately influenced the 19.7% surge in the S&P 500 index this year.

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The S&P 500 is a capitalization-weighted index which places disproportionate weight on the largest companies such as those listed above. To put this into perspective, the equal-weight S&P 500 is only up 9.5% for the year – less than half of the cap-weighted index. Compared to this index, the Gamma Model's picks at +3.4% are running well ahead of the equal-weight S&P 500 returns (Table 4).

TABLE 4

GAMMA COMPANY MODEL - Recommended List Performance — As of: Jul 31, 2023

Sector	Ticker	Entry Price	Closing Price 7.31.23	% Change	Trade Date	S&P 500 % Change	Excess Return
Altria Group, Inc.	MO	$47.63	$45.42	-4.6%	12.2.22	4.2%	-8.8%
Celanese Corp.	CE	$122.12	$125.39	2.7%	2.6.23	2.1%	0.6%
Centene Corp.	CNC	$63.21	$68.09	7.7%	3.31.23	6.8%	0.9%
DaVita Inc.	DVA	$90.36	$101.99	12.9%	4.28.23	6.7%	6.2%
EQT	EQT	$41.13	$42.18	2.6%	6.30.23	4.2%	-1.6%
Henry Schein Inc.	HSIC	$78.31	$78.79	0.6%	3.1.23	3.4%	-2.8%
Kroger Co.	KR	$47.57	$48.64	2.2%	12.2.22	5.8%	-3.6%
McKesson Corp.	MCK	$313.34	$402.40	28.4%	6.10.22	11.1%	17.3%
ONEOKE Inc.	OKE	$68.20	$67.04	-1.7%	2.6.23	2.1%	-3.8%
PG&E Corporation	PCG	$17.11	$17.61	2.9%	4.28.23	6.7%	-3.8%
Pulte Group	PHM	$57.48	$84.39	46.8%	2.6.23	2.1%	44.7%
Sempra	SRE	$143.53	$149.02	3.8%	5.31.23	11.1%	-7.3%
Skywork Solutions Inc.	SWKS	$93.96	$114.37	21.7%	12.2.22	4.2%	17.5%
WEC Energy	WEC	$87.35	$89.86	2.9%	5.31.23	11.1%	-8.2%
						AVERAGE	3.4%

-Karl Chalupa and N. Claude Colabella

Mr. Chalupa is the CIO and Co-Founder of Gamma Investment Consulting and Editor of the Gamma Intelligence Reports. He is also President of Gamma Capital LLC, a quantitative global macro investment firm. Mr. Chalupa developed the Gamma Investment Program used for previously trading the firm's $400 million global macro program. He was previously Director of Risk Management at Titan Advisors LLC, a $4.5 billion alternative investments firm. Mr. Chalupa was also Managing Director of the Currency and Alternative Investment Strategies Groups at State Street Global Advisors (SSGA) where he developed a $9 billion currency overlay program and launched SSGA's first hedge fund based on his Gamma Model. Mr. Chalupa spent 13 years at ABN Amro Bank where he traded interest rate and currency derivatives and was Manager of the Proprietary Trading and Economic Research Desk. He began his career as an economist for the Federal Reserve Bank of Chicago. Mr. Chalupa holds an MA in Economics from Brown University, graduated magna cum laude from Northern Illinois University with BAs in Economics and Political Science, and is Series 3 registered.

Mr. Colabella is the Chief Operating Officer, Co-Founder of Gamma Investment Consulting and Co-Editor of the Gamma Equity Intelligence Report. He was previously Director of Communications and Investor Relations at Titan Advisors, LLC, a $4.5 billion alternative assets solutions firm. Mr. Colabella has equity research experience with working at Petroleum Research Group, Inc. (Rye, NY), an independent energy equity research boutique and at John S. Herold, Inc., a leading petroleum research and consulting firm. He was a Managing Partner at Alpha Beta Alternative Investments, Inc., an alternative investment boutique that managed Alpha Beta Partners, LP, a multi-strategy "fund of funds". Mr. Colabella holds an MBA in Finance from Duke University, Fuqua School of Business. He graduated magna cum laude from Manhattan College, with a BS BA in Economics and is Series 7 and 63 registered.

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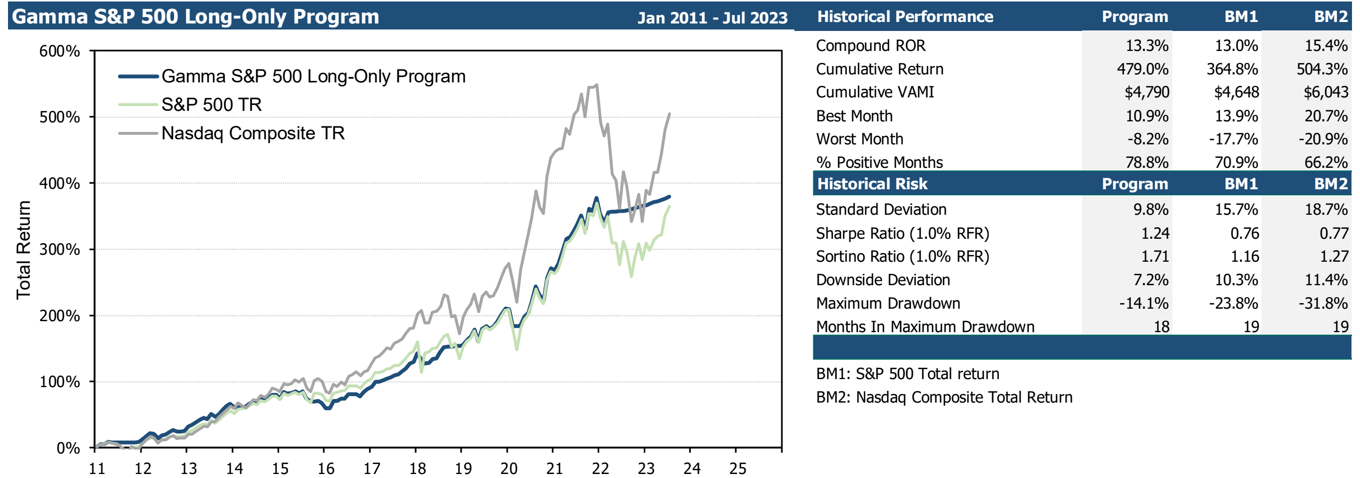
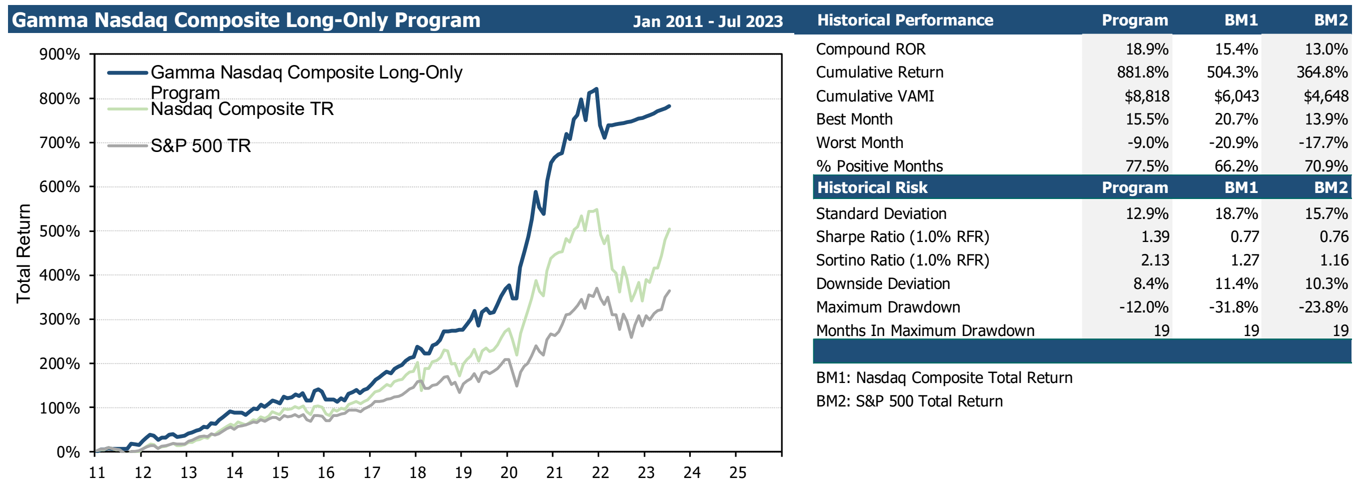
Gamma Model Performance Summary – July 2023



Historical Performance	Program	BM1	BM2
Compound ROR	13.3%	13.0%	15.4%
Cumulative Return	479.0%	364.8%	504.3%
Cumulative VAMI	$4,790	$4,648	$6,043
Best Month	10.9%	13.9%	20.7%
Worst Month	-8.2%	-17.7%	-20.9%
% Positive Months	78.8%	70.9%	66.2%
Historical Risk	**Program**	**BM1**	**BM2**
Standard Deviation	9.8%	15.7%	18.7%
Sharpe Ratio (1.0% RFR)	1.24	0.76	0.77
Sortino Ratio (1.0% RFR)	1.71	1.16	1.27
Downside Deviation	7.2%	10.3%	11.4%
Maximum Drawdown	-14.1%	-23.8%	-31.8%
Months In Maximum Drawdown	18	19	19

BM1: S&P 500 Total return
BM2: Nasdaq Composite Total Return



Historical Performance	Program	BM1	BM2
Compound ROR	18.9%	15.4%	13.0%
Cumulative Return	881.8%	504.3%	364.8%
Cumulative VAMI	$8,818	$6,043	$4,648
Best Month	15.5%	20.7%	13.9%
Worst Month	-9.0%	-20.9%	-17.7%
% Positive Months	77.5%	66.2%	70.9%
Historical Risk	**Program**	**BM1**	**BM2**
Standard Deviation	12.9%	18.7%	15.7%
Sharpe Ratio (1.0% RFR)	1.39	0.77	0.76
Sortino Ratio (1.0% RFR)	2.13	1.27	1.16
Downside Deviation	8.4%	11.4%	10.3%
Maximum Drawdown	-12.0%	-31.8%	-23.8%
Months In Maximum Drawdown	19	19	19

BM1: Nasdaq Composite Total Return
BM2: S&P 500 Total Return

Past performance is not indicative of future results

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Gamma Macro Model Forecasts for August 2023

TABLE 1

1 MONTH STOCK INDEX MODEL FORECASTS (%)

Country	Stock Index	Price	1 Mo Forecast	Previous Forecast	Position	Trade	Updated
USA	S&P 500	4,582.23	0.00%	0.00%	Neutral	Hold	7/31/23
USA	Nadaq	14,307.39	0.00%	0.00%	Neutral	Hold	7/31/23
Canada	S&P/TSX 60	1,238.78	0.00%	0.00%	Neutral	Hold	7/31/23
Mexico	IPC	55,140.47	0.72%	0.50%	Long	Hold	7/31/23

TABLE 2

1 MONTH STOCK SECTOR FORECASTS (%)

Sector	Ticker	1 Mo Forecast	Previous Forecast	Updated
Energy	XLE	0.72%	0.88%	7/31/23
Consumer Staples	XLP	0.31%	0.74%	7/31/23
Gold Miners	---	0.29%	-0.28%	7/31/23
Health Care	XLV	0.13%	0.59%	7/31/23
Technology	XLK	0.11%	-0.05%	7/31/23
Materials	XLB	-0.06%	-0.17%	7/31/23
Communications Services	XLC	-0.13%	-0.05%	7/31/23
Financials	XLF	-0.24%	-0.10%	7/31/23
Utilities	XLU	-0.30%	0.22%	7/31/23
Real Estate	XLRE	-0.37%	0.14%	7/31/23
Industrials	XLI	-0.53%	-0.20%	7/31/23
Consumer Discretionary	XLY	-1.15%	-0.88%	7/31/23

TABLE 3

1 Month Company Stock Price Forecasts (%) **Updated: Jul 31, 2023**

Company	Ticker	Closing Price	1 Mo Forecast	Previous Forecast	Change	% Off 52 Wk High	Forward P/E	Dividend Yield	Factor Momentum
EQT	EQT	$42.18	3.75%	3.61%	0.14%	-11.8%	12.66	1.42%	Positive
ESTEE LAUDER COS.'A'	EL	$180.00	2.07%	1.47%	0.60%	-35.0%	35.10	1.47%	Positive
INTUITIVE SURGICAL	ISRG	$324.40	1.54%	0.84%	0.70%	-5.1%	53.26	0.00%	Positive
ZIONS BANCORP.	ZION	$38.25	1.41%	0.30%	1.12%	-30.5%	8.53	4.29%	Positive
EXPEDIA GROUP	EXPE	$122.53	1.41%	1.39%	0.03%	0.0%	11.06	0.00%	Positive
RALPH LAUREN CL.A	RL	$131.33	1.16%	0.83%	0.33%	0.0%	12.99	2.28%	Positive
MICRON TECHNOLOGY	MU	$71.39	1.10%	0.19%	0.91%	0.0%	NA	0.64%	Positive
STEEL DYNAMICS	STLD	$106.58	1.10%	0.01%	1.09%	-15.5%	8.71	1.60%	Positive
WESTERN DIGITAL	WDC	$42.56	1.01%	0.56%	0.45%	-13.3%	NA	0.00%	Positive
PNC FINL.SVS.GP.	PNC	$136.89	0.90%	0.76%	0.14%	-18.6%	10.42	4.53%	Positive
HALLIBURTON	HAL	$39.08	0.88%	0.78%	0.10%	-5.2%	11.65	1.64%	Positive
ALIGN TECHNOLOGY	ALGN	$377.89	0.87%	0.50%	0.36%	0.0%	39.42	0.00%	Positive
BOOKING HOLDINGS	BKNG	$2,970.80	0.85%	0.46%	0.39%	0.0%	19.72	0.00%	Positive
WILLIAMS	WMB	$34.45	0.83%	0.42%	0.41%	-0.7%	18.53	5.20%	Positive
VERTEX PHARMS.	VRTX	$352.34	0.80%	0.78%	0.01%	0.0%	22.92	0.00%	Positive
MOLINA HEALTHCARE	MOH	$304.49	0.79%	0.54%	0.25%	-15.2%	13.59	0.00%	Positive
KIMBERLY-CLARK	KMB	$129.10	0.76%	0.18%	0.58%	-10.9%	19.20	3.66%	Positive
ARCHER DANIELS MIDLAND	ADM	$84.96	0.75%	0.74%	0.01%	-12.9%	12.52	2.12%	Positive
AVALONBAY COMMNS.	AVB	$188.65	0.71%	0.07%	0.64%	-11.8%	37.32	3.50%	Positive
DOVER	DOV	$145.97	0.71%	0.29%	0.42%	-3.9%	15.45	1.38%	Positive
NETAPP	NTAP	$78.01	0.69%	0.18%	0.52%	0.0%	13.40	2.56%	Positive
NRG ENERGY	NRG	$37.99	0.67%	0.56%	0.12%	-14.4%	6.51	3.97%	Positive
AUTOZONE	AZO	$2,481.72	0.67%	0.52%	0.15%	-6.8%	16.90	0.00%	Positive
SEAGATE TECHNOLOGY HOLDINGS	STX	$63.50	0.67%	0.62%	0.05%	-20.6%	52.18	4.41%	Positive
BROWN & BROWN	BRO	$70.45	0.66%	0.20%	0.47%	0.0%	25.85	0.65%	Positive

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