GAMMA

Macro Intelligence Report

May 2023

GAMMA INVESTMENT CONSULTING

Gamma Global Macro Model Highlights

- **The S&P 500 and Nasdaq Models remained neutral (in cash) for May**. Despite last month's rally in the S&P 500, contracting liquidity, declining earnings, and overvaluation are keeping the Model out of the market.

- **The 10-year and 30-Year Treasury Models remained short (higher yields) for May. The Corporate Investment Grade Model, however, remained long (lower yields) due to very attractive valuation.** Treasury bonds continue to struggle due to slowing progress in reducing the inflation rate to the Federal Reserve's 2% target rate.

- **The Gold Model remained long for May.** Attractive valuation is continuing to support gold prices. The lack of progress in reducing the core inflation rate, however, is increasing the odds of more interest rate hikes which is putting a damper on gold's recent rally.

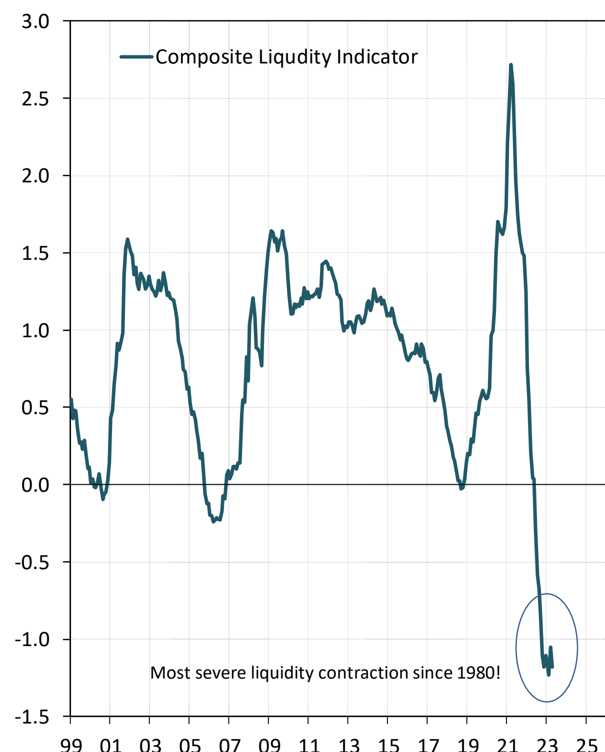
- **The EUR/USD Model remained long the euro for May.** The euro has been supported the last several months by a narrowing interest rate differential between the U.S. and the Eurozone. The euro is also benefitting from rapidly improving inflation relative the U.S.

I. Equity Index Outlook

The Gamma Liquidity Indicator is signaling the most severe liquidity contraction since 1980 (Chart 1). Improvement in the core inflation rate has stalled, and the Fed is hinting that rate hikes beyond May are now on the table. The Conference Board's index of leading economic indicators is down 12 months in a row. The OECD's leading indicator has been signaling contraction for 11 months. The collapse of Silicon Valley Bank and Signature Bank plus the impending sale/liquidation of First Republic Bank constitute the worst financial crisis since 2008. Corporate earnings are down -8% yr/yr. Stocks remain about 20% overvalued.

CHART 1

Composite Liquidity Indicator



Yet, the S&P 500 rallied 1.41% in April and now stands just -13% below its all-time high. To be fair, the Nasdaq was down -0.1% and remains -21% below its peak. Given the plethora of bad news, the Gamma Equity Models for the S&P 500 and the Nasdaq remain neutral (in cash) for May (Chart 2). Let's look at what's keeping this market afloat and discuss whether those factors are sustainable.

The way we see the market is through Scenario A and Scenario B. Scenario A says that the Fed's next tightening will be the last, inflation will gradually converge to the Fed's 2% target, the Fed/FDIC/Treasury Department will contain any fires in the financial system, and the economy will manage a "soft" landing with perhaps an

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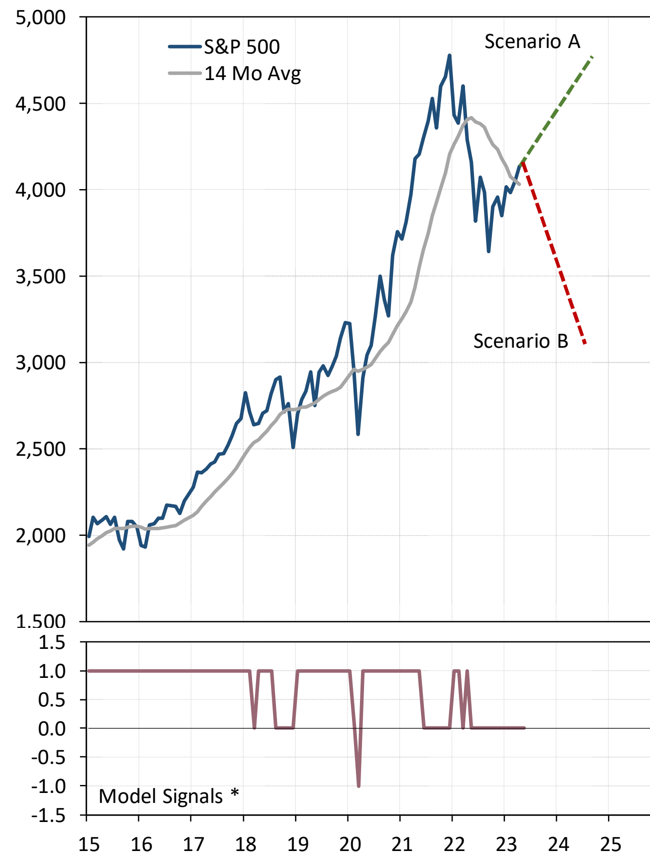
extended period of below-average growth. Under this scenario, equities have likely bottomed for this cycle and are likely to trend steadily higher (Chart 2).

Under Scenario B, the fireworks haven't even started yet. Scenario B states that the reason why the market is holding up is due to the liquidity hangover from the Covid stimulus combined with the recent "mini quantitative easing" that the Fed has engaged in to deal with the flurry of bank failures. Let's look at these in more detail.

CHART 2

USA: S&P 500 Model Forecast



Positive Factors

- **The (Liquidity) Hangover**. During the Covid pandemic and the first two years of the Biden administration, federal debt increased by over $8 trillion. Of that $8 trillion, over $3 trillion was purchased by the Federal Reserve for its portfolio and was paid for with the creation of new money. That resulted in the largest increase in money supply relative to the economy ever seen (Chart 3). Between December 2016 and May 2022, the number of dollars per unit of GDP rose by 73%. There is no historical U.S. precedent for such a huge increase in the money supply in such a short period of time. And even though the Federal Reserve has raised rates nine times in the last year, this may still not be enough to offset the liquidity wave that swept through the economy.
- **"Mini" Quantitative Easing.** Prior to the SVB and Signature Bank failures the Federal Reserve had contracted its balance sheet by $626 billion since the peak in May 2022. Total assets had fallen to $8.06 trillion, their lowest level since August 2021. When the SVB crisis hit in March, the Fed stepped in to provide liquidity to the entire banking system through its Bank Term Funding Program (BTFP). The BTFP provides short-term secured loans. Borrowing from the BTFP jumped from zero on March 8 before the SVB bank run to over $81 billion this week. This jump in lending to the banking sector has significantly offset the Fed's so-called Quantitative Tightening (QT) of reducing its portfolio of Treasuries and Mortgage-Backed Securities. In addition, the Fed briefly hit the brakes on QT as it bought almost $400 billion in securities outright between March 1 and March 22.

These two factors have been critical to the market's recent rally. The Fed has added almost $500 billion in cash in the last month. That has directly supported stock prices. It has also provided indirect support by reducing investor concerns over the stability of the banking system. It may provide support in the near term, but we believe it is not sustainable if the Fed is serious about reducing inflation to a 2% rate. In that case, the prevailing negative factors will eventually take equity prices lower:

Negative Factors

- **Core inflation is no longer improving**. CPI inflation peaked at an 8.9% yr/yr rate eight months ago and has since fallen to 6%. **Core CPI inflation, which excludes energy and food prices, increased to a 5.6% yr/yr rate in April, up from a 5.5% rate in the previous two months**. **The core rate has only fallen one percent from its 6.6% yr/yr peak**. Moreover, the Gamma Economic Model predicts that at the projected growth rate of the economy, inflation will bottom at a 3.7% annual rate – well short of the Fed's 2%

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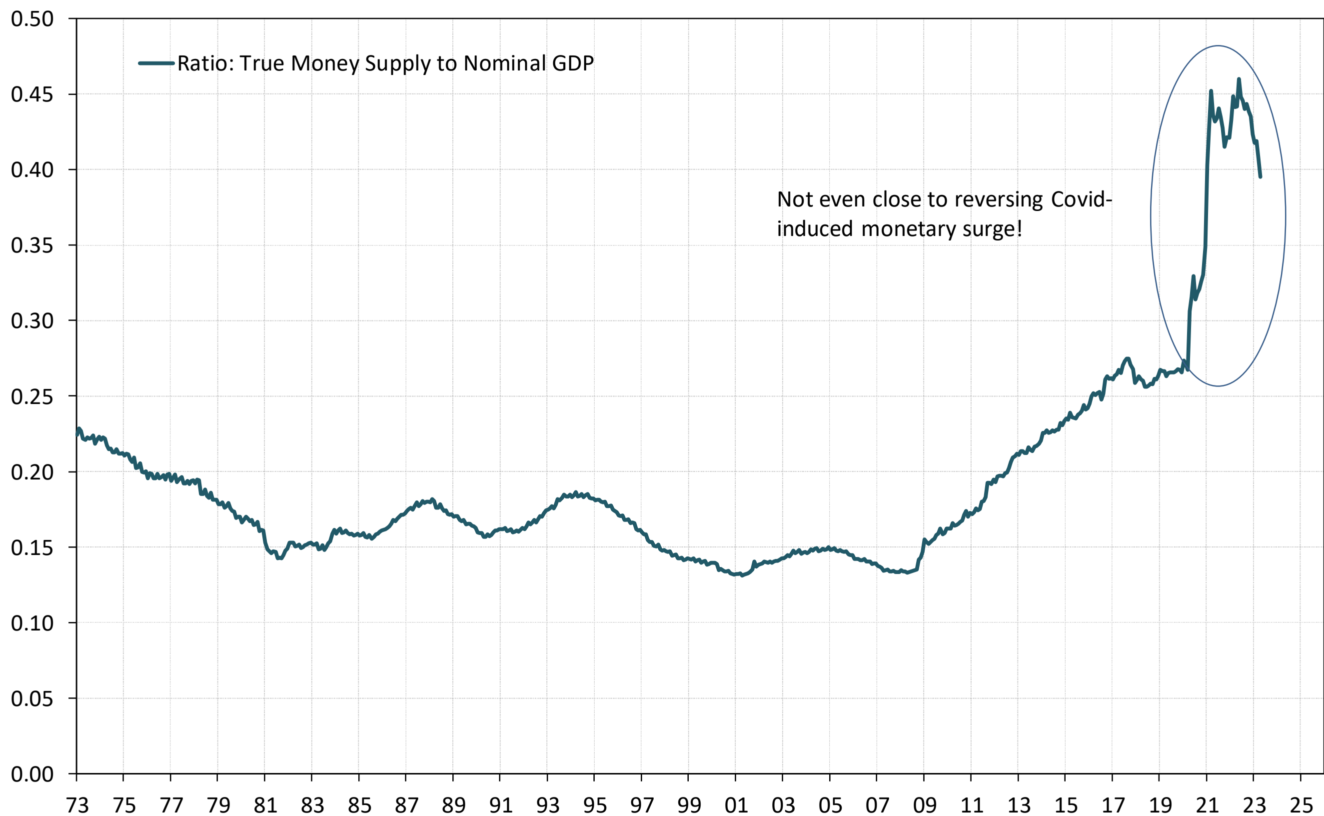
CHART 3

Ratio: True Money Supply to GDP

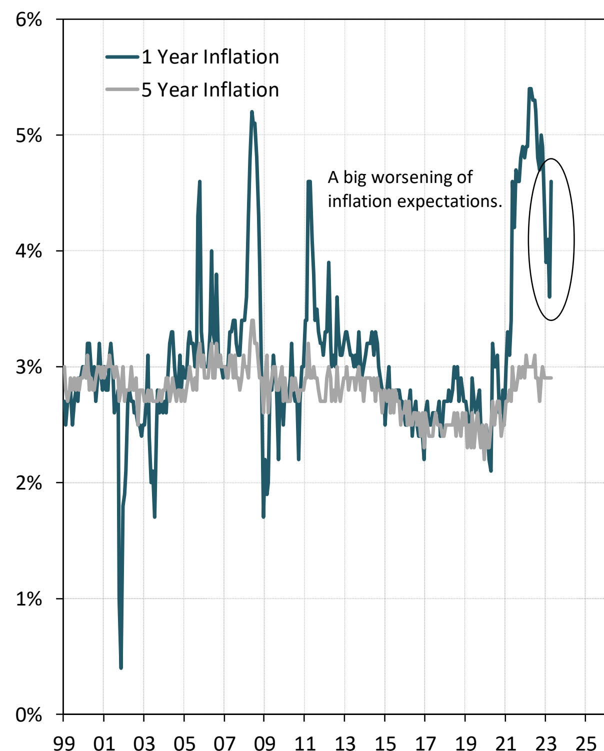


target. In addition, the University of Michigan's survey of 1-year inflation expectations surged to 4.6% from 3.6% last month (Chart 4). A one percent increase in one month should make the Fed sit up and take notice.

- **Short-term interest rates continue to rise**. The lack of recent progress in core inflation will keep upward pressure on interest rates. Market expectations previously called for rates to peak with the Fed's March FOMC meeting. Instead, the CME FedWatch Tool currently calls for another 25 basis points increase at the May meeting followed by what could be an extended pause. That would push rates above the 5% peak in 2007 before the financial crisis of 2008 (Chart 5).
- **The yield curve is becoming even more inverted**. Last month's Fed rate hike caused the 3-30 yield curve to invert to its most extreme level since 1981, though the 2-10 curve remained unchanged (Chart 5). **Both curves remain indicative of a very restrictive monetary policy.** Both are likely to contribute to even weaker money growth. Since 1960, inversions in the 3-30 curve have invariably been followed by much lower stock prices. **The bottom in stock**

CHART 4

Univ of Michigan Inflation Survey



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prices has occurred on average 13.5 months after the curve inverts. Assuming this cycle plays out similarly to others, look for stock prices to have a rocky summer before potentially bottoming late in 2023.

- **Every measure of real money growth continues to deteriorate**. Both nominal and real (inflation-adjusted) True Money Supply (TMS) growth continues to crash. Real TMS was down -10.3% yr/yr last month (Chart 6). Nominal TMS was down -4.1%. **To put this into perspective, nominal TMS has not been negative yr/yr at any time in at least 50 years**. Real M2 was down -10% yr/yr, a new low for this cycle. Nominal M2 contracted -4.1%, something not seen since the 1930's. All the measures are indicative of a severe contraction in liquidity which is likely to worsen due to an expected further inverting of the yield curves as short-term rates rise. It is highly unlikely that money growth will recover until interest rates have clearly peaked.
- **The Federal Reserve's balance sheet continues to contract**. Even though the Fed injected almost $500 billion in reserves into the banking system early last month, this is against a background of ongoing tightening. The $81 billion through the BTFP are repurchase agreements (essentially secured loans) that will eventually be repaid. When that occurs, the money will drain from the banking system thus undoing the Fed's liquidity injection. Since March 22, the Fed has already sold $171 billion of the $400 billion in securities that it bought outright in early March, and we expect further liquidation to occur.
- **Corporate earnings are falling**. 12-month trailing earnings in April for the total US market, S&P 500, and Nasdaq indexes were down -7.6%, -8.0%, and -14.9, respectively (Chart 7). 12-month earnings momentum also remained strongly negative indicating that an upturn in earnings is not yet in in sight. Historically, in those cases where equity prices dropped over 20% from their peaks, earnings continued to fall for an average of 12 months after their yr/yr growth turned negative. That implies that earnings will be a drag on equity prices into 2024.

CHART 5

Interest Rates: United States

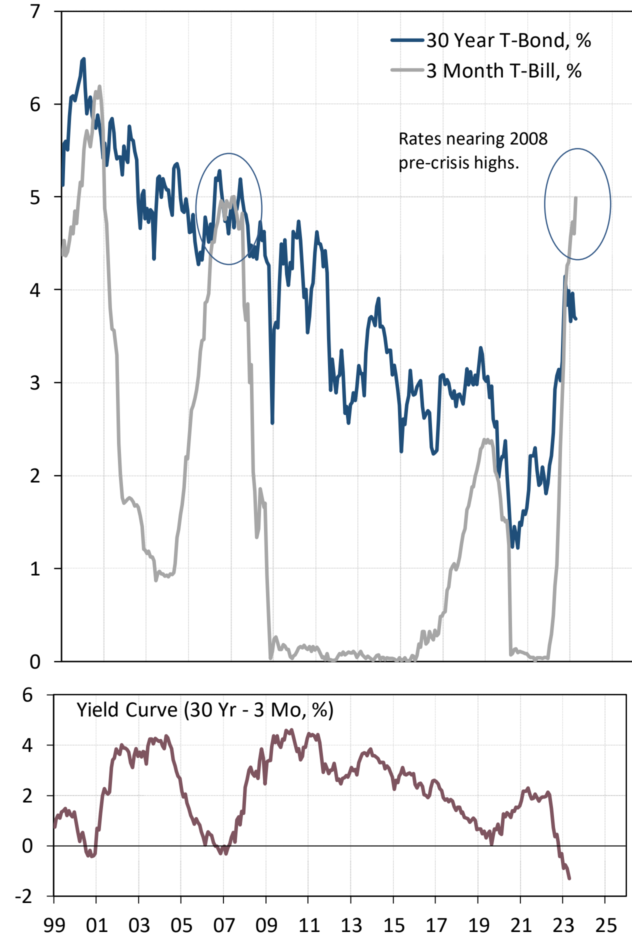

CHART 6

Real True Money Supply and M2

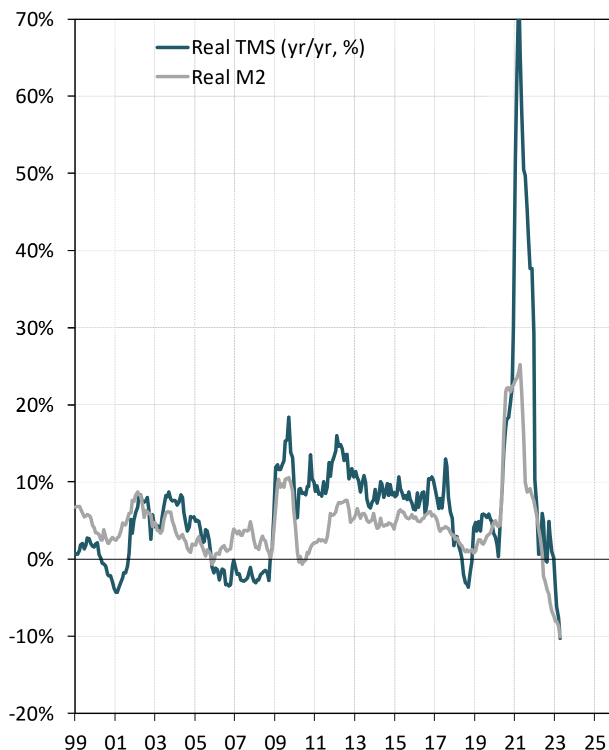

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CHART 7
US Total Market Earnings Growth

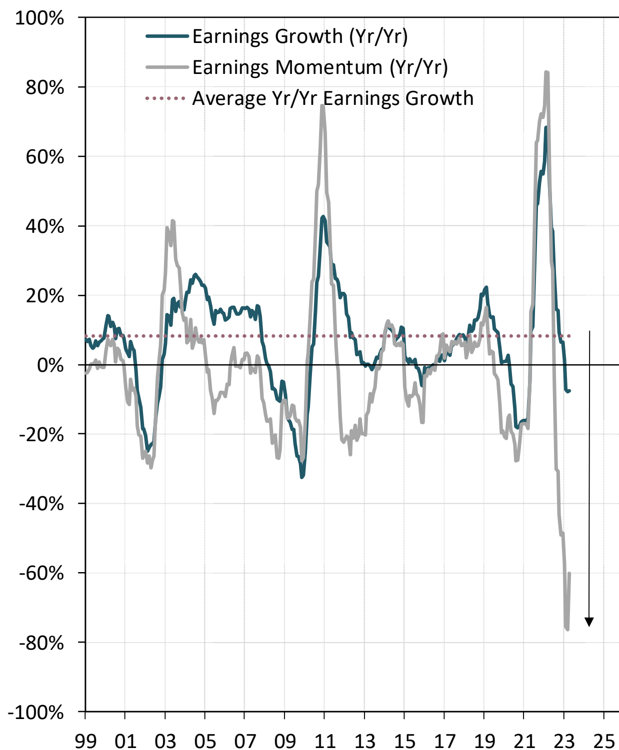
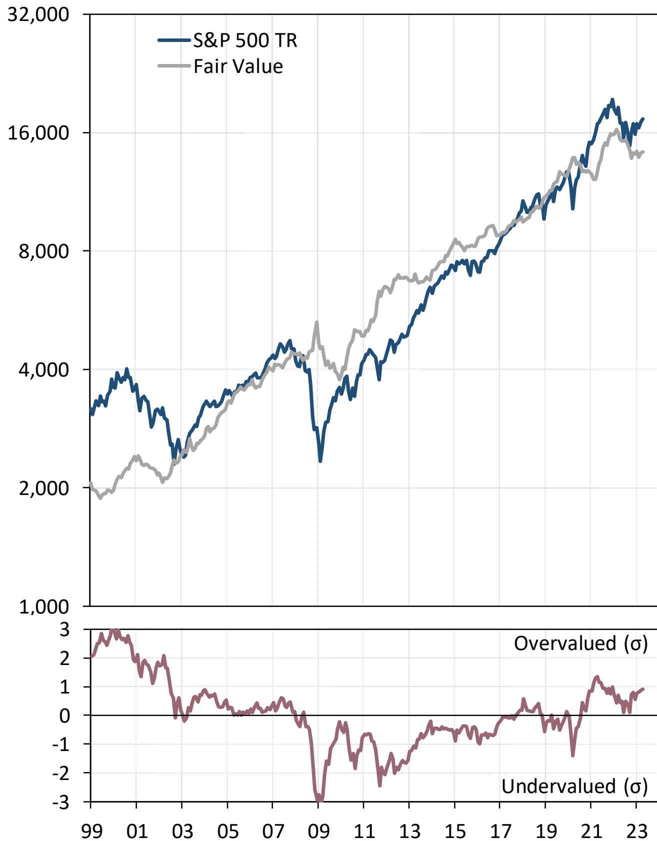


CHART 8
USA: S&P 500 Valuation



- **Equities remain overvalued**. Last month's stock rally carried the major indexes further into overvalued territory, The S&P 500 edged up to 19% overvalued from 18% in February (Chart 8). That's now the most extreme overvaluation since December 2021. The Nasdaq, which did not share in the recovery in the S&P 500, improved from 33% overvalued to a still-high 32%. **As we have repeatedly noted, 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.** At current valuation, the S&P 500 would need to drop to 3,000 to reach 25% undervaluation. The Nasdaq would need to fall to 7,800.
- **Seasonals: Sell in May and go away**? Stocks have a reputation for underperforming during the summer months. The summer months have actually been positive historically, with the S&P 500 averaging a 0.2% monthly gain since 1974. In contrast, the S&P 500 has averaged a 1.2% monthly return in the non-summer months – a 6:1 outperformance ratio. Looking only at those summers when the Fed was tightening, the monthly summer average shows even worse underperformance with an average monthly loss of -0.04%. Investor should be careful with seasonals because they have a great deal of volatility from year-to-year. Nevertheless, the odds of the market behaving any better than average over the summer, especially with the Fed still tightening, are pretty slim.

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II. Fixed Income Outlook

Both the 10-year and 30-year Treasury Bond Models remained short (higher yields) for May (Charts 9, 10). The lack of improvement in the core inflation rate, moderate economic growth, rising rates, and the inverted yield curve kept bond yields largely unchanged in April despite the Fed's purchase of over $400 billion in securities. The Investment Grade Corporate Bond Model remained long (lower yields). Attractive valuation and favorable spreads against Treasuries caused the Model to maintain its long corporate bond position.

CHART 9

USA: 10 Yr T-Note Model Forecast

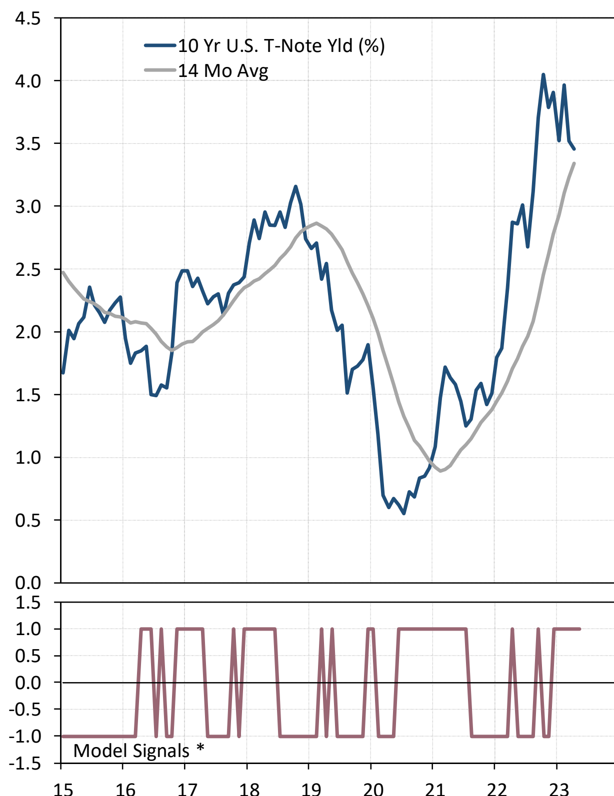
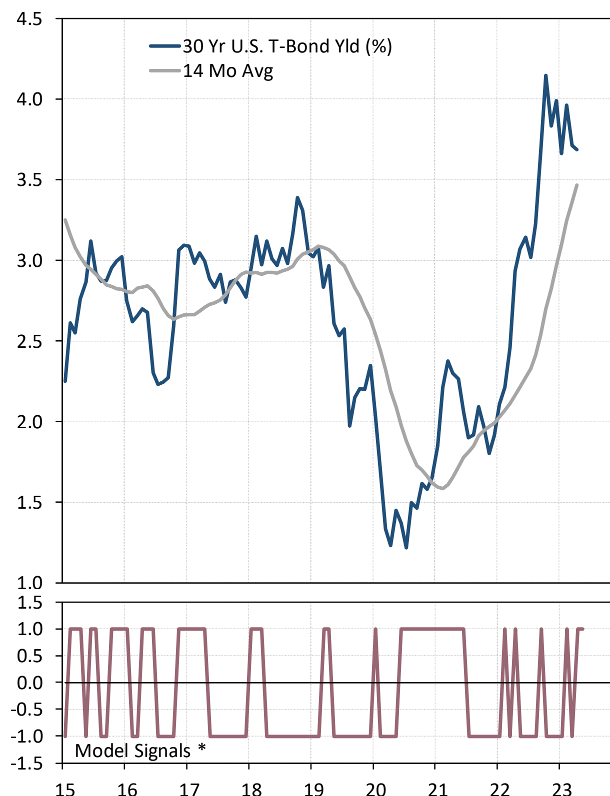


CHART 10

USA: 30 Yr T-Bond Model Forecast



Positive Factors

- **<u>Bonds are undervalued</u>**. The 10- and 30-year Treasuries stayed slightly undervalued last month. After hitting extreme undervaluation late in 2022, valuation has gradually returned to neutral as interest rates have risen and the inflation rate has receded somewhat from its late 2022 peak. 10-year Treasury notes are now only 2% undervalued. 30-year Treasures are 8% undervalued. **Investment grade corporates, however, are still highly undervalued** (Table 1). Investment grade corporates are almost 1.7 standard deviations below fair value (-7%). Quality corporates currently yield almost 2% more than 10-year Treasuries which is over one standard deviation above an average historical spread of 1.1%.

TABLE 1

VALUATION vs FORWARD YIELD ANALYSIS

Country	Debt Instrument	Yield Valuation (σ)	Price Valuation (%)
USA 2	2 Yr T-Note	-0.66	0.7%
USA 5	5 Yr T-Note	-0.12	0.4%
USA 10	10 Yr T-Note	+0.31	-2.1%
USA 30	30 Yr T-Note	+0.53	-8.3%
USA IG	IG Corporate	+1.67	-7.1%
USA HY	HY Corporate	+0.94	-11.5%

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Neutral Factors

- **Economic growth is slowing, but not fast enough**. Economic activity is slowing but not at a fast enough pace to produce anything more than a modest decline in long-term yields. Real GDP rose 1.1% in the first quarter, down from a 2.6% rate in IV Q 2022. The Conference Board's index of coincident economic indicators (a monthly proxy for real GDP) has actually risen, however, over the last four months. Yr/yr growth has accelerated to a 1.9% rate last month compared to 1.6% rate in December. Looking ahead, the Conference Board's index of leading economic indicators fell for the twelfth consecutive month in April (Chart 11). The index is now down -6.7% yr/yr. **The index has never been down over 2% yr/yr without being followed by a recession**. We expect the economy to slow further later in 2023. The Gamma Economic Model still projects slower growth which should allow a gradual decline in long-term yields.
- **Inflation is slowing, but not fast enough**. Like economic activity, the inflation rate is falling but not fast enough to substantially reduce long-term rates. Headline consumer price inflation has fallen from an 8.9% yr/yr rate in August 2022 to a 6.0% rate last month (Chart 12). Core inflation (excluding food and energy) has fallen only one percent over that period and has actually accelerated slightly over the past two months. The Gamma Economic Model projects that the inflation rate will continue to decline into 2024, but the pace will likely be slower than what the Fed would prefer. The Fed may respond by raising rates more aggressively to ensure that inflation converges to its 2% target rate. In the long run this will ensure a more substantial drop in long-term rates but in the short term could cause an uptick in bond yields.
- **"Quantitative Tightening" or "Quantitative Easing?"** As mentioned above, the Fed is balancing short term liquidity to support the banking system against the long-term need to drain liquidity to bring inflation under control. These two forces are likely offsetting each other in terms of their effect on bond yields. If, as we assume, the Fed resumes contracting its balance sheet the immediate result is likely to higher bond yields. Over the longer term, however, the reduced liquidity will bring inflation down. That will allow long term rates to also gradually decline.

CHART 11
Measures of Economic Activity

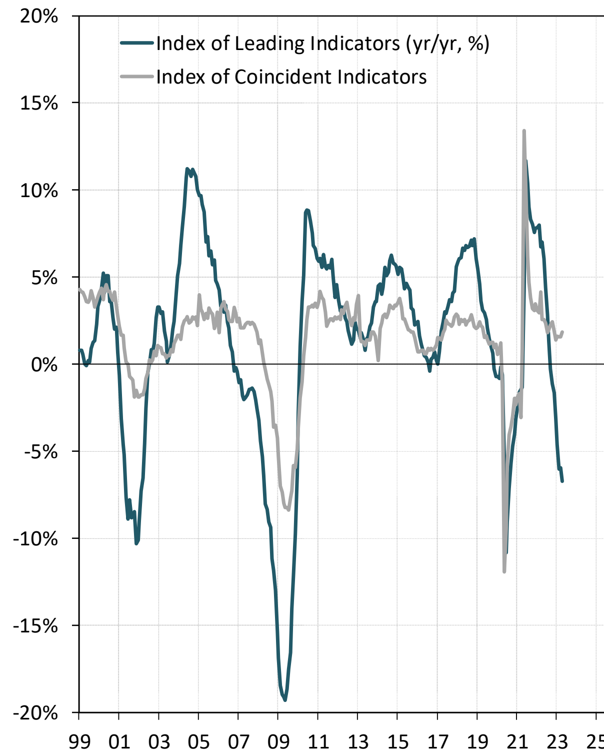
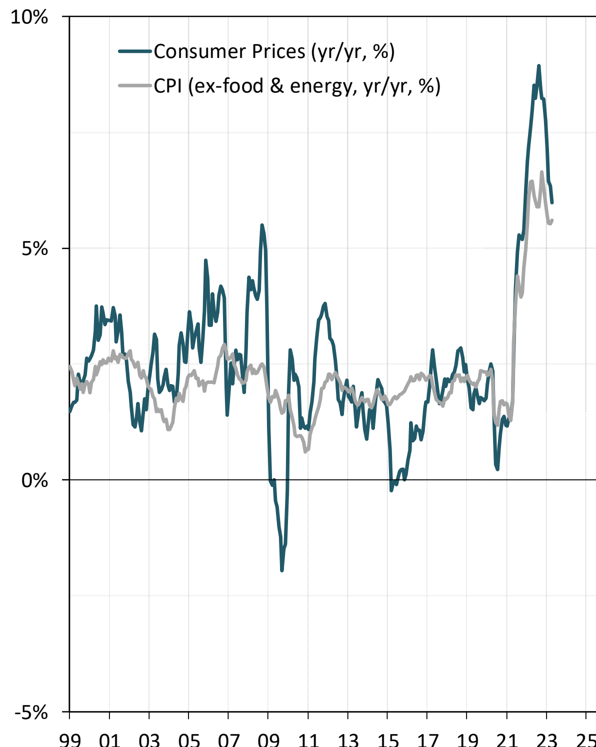


CHART 12
Inflation Measures



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- **Debt ceiling increase**. The House last week passed a measure to increase the debt ceiling above the current $31.4 trillion limit. The proposal now heads to the Democrat-controlled Senate where it is likely DOA. What happens next is anyone's guess, though the outcome with 100% certainty is that at some point the debt ceiling will be raised. The alternative is shutting down the 25% of federal spending subject to annual appropriation by Congress. "Entitlement" benefits such as Social Security will continue to flow because they are authorized by Congress in laws that do not need annual approval. In addition, the Treasury can continue to pay interest on U.S. Treasury debt on time. The federal government took in about $4.9 trillion in 2022 while spending $6.3 trillion. The difference of $1.4 trillion was borrowed. A failure to lift the debt ceiling doesn't change the flow of tax revenues which can still be spent. The debt ceiling simply limits the government from financing the difference between revenues and outlays by borrowing additional money. This reduced supply of Treasury securities may initially drive long-term rate lower, though this may be offset by a higher risk premium due to the usual hand-wringing about a government "default." Once the (inevitable) increase in the ceiling occurs, a flood of pent-up issuance will likely drive yields higher.

Negative Factors

- **Bearish seasonals**. Long-term Treasury yields have historically risen in the first five months of the year through May. The 10-year T-Note has risen on average 2.5 basis points in May. The 30-year T-Bond yield has risen 0.3 basis points. Investment Grade Corporates, in contrast, have historically fallen 5.2 basis points in May. After May, yields have historically trended lower for the balance of the year.
- **Inverted yield curve**. The Gamma Bond Model includes the shape of the yield curve as one of its predicative factors. Because of the severe current inversion, the incentive to carry relatively lower-yielding bonds compared to short-term money market instruments is reduced. For example, the current yield on three-month Treasury bills is 4.99% compared to a 3.69% yield on the 30-year Treasury. The more severe the inversion, the greater the opportunity cost (in terms of foregone interest) of owning longer-term maturity instruments compared to short-term money market instruments such as T-Bills and bank CDs.

III. Gold and Precious Metals Outlook

The Gamma Gold Model remained long for May (Chart 13). Gold rose a modest 0.4% in April as favorable valuation clashed with the prospect of higher interest rates. The gold rally since its September 2022 low has been fueled by the belief that the Fed was nearing the end of its tightening cycle. Instead, the sluggish improvement in core inflation has raised the prospect of possibly several more rate hikes. **Because of extremely attractive valuation, we continue to encourage long-term investors to take advantage of weakness in the sector to add to long positions in both metals and gold mining shares.**

Positive Factors

- **Precious metals are still cheap**. Gold has rallied over 9% over the past two months. Despite this, gold is still 1.4 standard deviations undervalued (-33%) (Chart 14). The Gamma Valuation Model shows fair value for gold to be around $2,750 – still well above the current $1,987 spot price. Silver remains even more undervalued at -42%.

Negative Factors

- **Still-rising interest rates**. As we discussed in the Fixed Income section, both economic growth and the inflation rate are slowing but at a glacial pace. Core inflation, in particular, seems to have stalled at a 5.5% annual rate – well short of the Fed's 2% target. Gold has historically been the longest leading indicator of inflation and monetary policy. It tends to move so far ahead of major changes in interest rates and inflation that it often appears to be counter-cyclical, i.e., falling when inflation is rising and vice versa.

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Additional interest increases are not likely to reverse the gold rally since rates are likely close to a top even if there are a couple more rate hikes still in store. The prospect of additional interest rates may keep gold range-bound until the inflation resumes its decline.

- **Favorable seasonals**. All the precious metals have a mildly bullish seasonal for May. Gold has historically been up 0.4% during the month; silver has averaged a 0.2%gain.

CHART 13
Gold Model Forecast

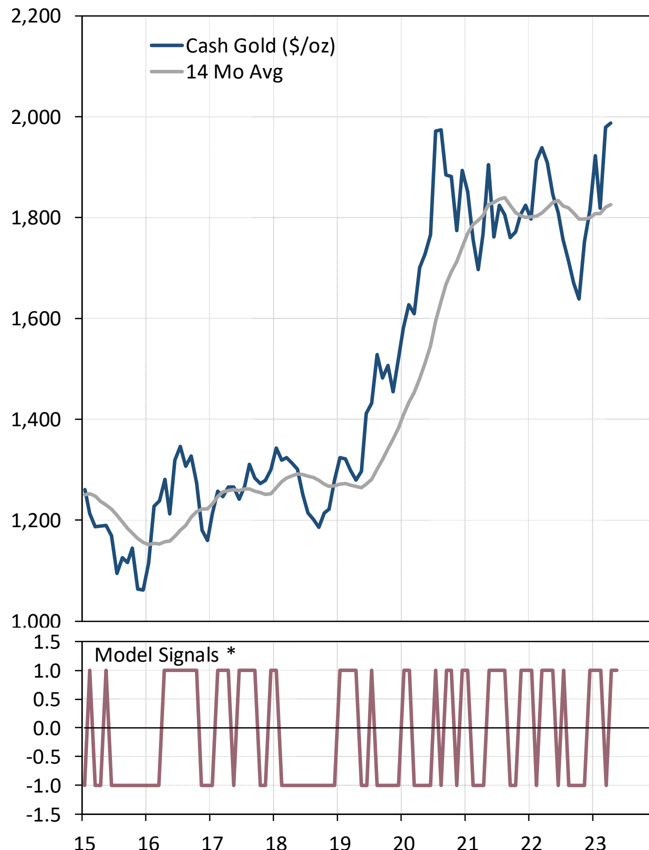
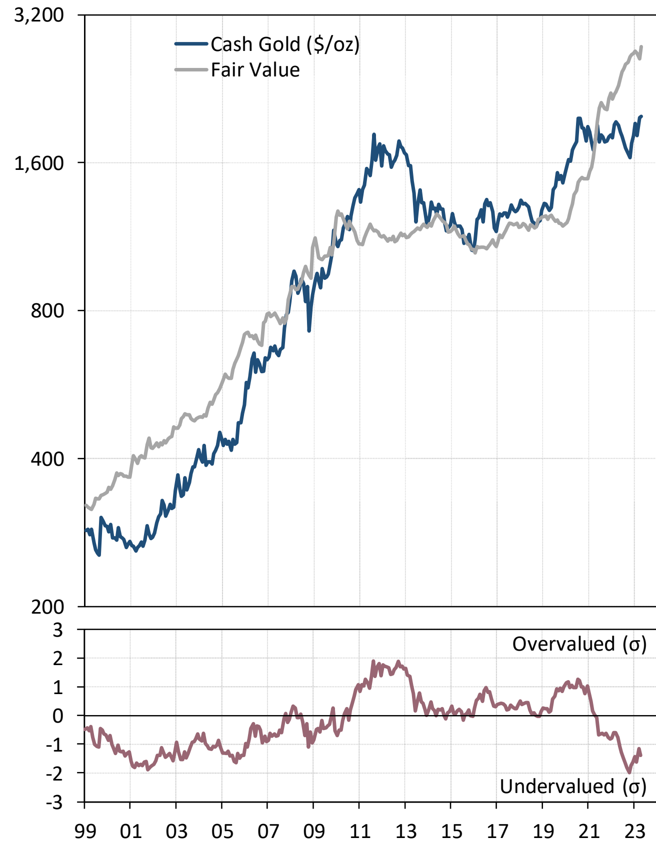


CHART 14
Gold Valuation



IV. Foreign Exchange Outlook

The Gamma EUR/USD Model remained long the euro (short USD) for May (Chart 15). This is now the sixth consecutive month that the Model has stayed long the euro. After bottoming at 0.9770 last September, the euro (like gold) has rallied on the belief that Eurozone rates would begin to increase faster than U.S. interest rates. That has actually been the case. The 3-month interest differential between the two currencies has narrowed from 3% (in favor of the USD) in September to 2.1% last month (Chart 16). The bond yield differential has also narrowed from 2% to 1.14% last month. That may pause the euro's rise, however, as hopes that U.S. interest rates have peaked is likely to be incorrect. ECB rate increases are expected to match or exceed those of the U.S., but it will take a further sustained narrowing of the interest rate spread to extend the euro's rally.

Positive USD Factors

- **Still-rising U.S. interest rates**. Stubborn U.S. inflation is likely to encourage additional Fed rate hikes as long as the U.S. service sector and labor market hold up and no more banks fail. The Fed is expected to deliver another 25-basis point increase at its May meeting followed by a pause. The pause (if it happens)

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CHART 15
EUR/USD Model Forecast

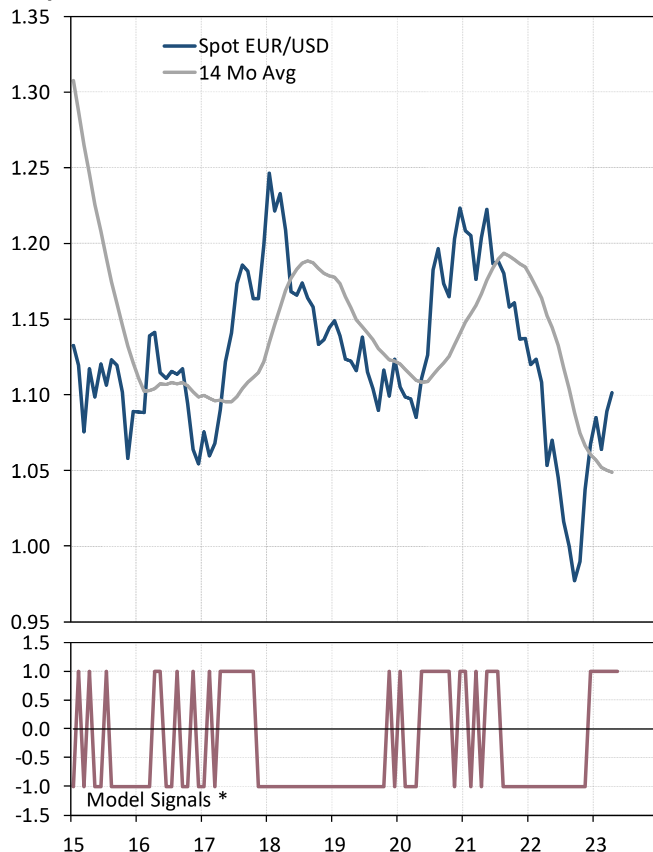
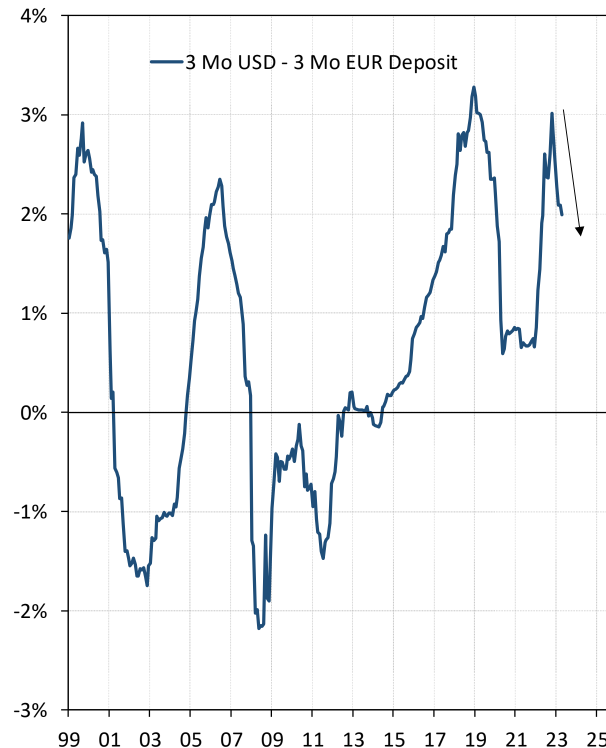


CHART 16
3 Month Interest Rate Differential



will depend critically on improving core inflation data. A worsening of ex-food and energy inflation later this month would almost guarantee at least one additional rate hike. The ECB will likely also lift rates for a seventh straight time at its May 4 meeting. Policymakers appear to be converging on a 25 basis points hike rather than a larger 50 basis points. That smaller increase will likely prevent the euro from extending its recent gains.

- **Bullish dollar seasonal**. The dollar has historically gained 0.7% against the euro in May. That is the second strongest monthly seasonal factor for the dollar after January.

Negative USD Factors

- **Relative inflation**. The inflation differential between the Eurozone and the United States has narrowed dramatically over the last six months. German producer price inflation hit a whopping 45% yr/yr rate last November due to a spike in energy prices following the cutoff of Russian oil and natural gas. Since then, German producer price inflation has fallen to 7.5% yr/yr rate as the inflation differential with the U.S. has narrowed from 34% to only 4%.

-Karl Chalupa

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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.

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Gamma Macro Model Forecasts for May 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	4,135.35	0.00%	0.00%	Neutral	Hold	4/28/23
USA	Nadaq	12,179.15	0.00%	0.00%	Neutral	Hold	4/28/23
Canada	S&P/TSX 60	1,245.00	0.00%	0.00%	Neutral	Hold	4/28/23
Mexico	IPC	54,884.70	5.43%	0.20%	Long	Hold	4/28/23
Brazil	Bovespa	103,586.93	0.00%	0.00%	Neutral	Hold	4/28/23
Japan	TOPIX	2,057.48	1.50%	1.43%	Long	Hold	4/28/23
Australia	S&P/ASX 200	7,309.20	0.00%	0.00%	Neutral	Hold	4/28/23
S. Korea	KOSPI	2,501.53	0.00%	0.00%	Neutral	Hold	4/28/23
China	Hang Seng CEI	6,702.15	0.93%	0.29%	Long	Hold	4/28/23
China / HK	Hang Seng	15,897.72	0.00%	0.00%	Neutral	Hold	4/28/23
India	Nifty 500	15,219.55	0.37%	0.62%	Long	Hold	4/28/23
Eurozone	STOXX 600	465.97	0.00%	0.00%	Neutral	Hold	4/28/23
Germany	DAX	15,897.72	0.00%	0.00%	Neutral	Hold	4/28/23
France	CAC 40	7,478.02	0.00%	0.00%	Neutral	Hold	4/28/23
Italy	FTSE/MIB 30	27,049.29	0.00%	0.00%	Neutral	Hold	4/28/23
Switzerland	Swiss Market	11,429.04	0.00%	0.00%	Neutral	Hold	4/28/23
UK	FTSE 100	7,849.64	0.00%	0.00%	Neutral	Hold	4/28/23
Russia	RTS 50	1,030.68	0.00%	0.00%	Neutral	Hold	4/28/23
S. Africa	FTSE/JSE 40	72,612.10	0.20%	2.34%	Long	Hold	4/28/23

TABLE 2
1 MONTH FIXED INCOME MODEL PRICE CHANGE FORECASTS (%)

Country	Debt Instrument	Current Yield (%)	Price Change Forecasts (%) 1 Month	Previous	Bond Position	Trade	Updated
USA	2 Yr T-Note	4.82	-0.02%	0.19%	Short	Cover Long & Sell	2/28/02
USA	5 Yr T-Note	4.21	-0.14%	-0.04%	Short	Hold	2/28/02
USA	10 Yr T-Note	3.96	-0.17%	-0.10%	Short	Hold	2/28/02
USA	30 Yr T-Note	3.96	0.20%	-0.61%	Long	Cover Short & Buy	2/28/02
USA	IG Corporate	5.58	-0.43%	0.41%	Short	Cover Long & Sell	2/28/02
USA	HY Corporate	8.63	-0.32%	1.27%	Short	Cover Long & Sell	2/28/02
Canada	10 Yr Govt	3.42	-0.06%	-0.32%	Short	Hold	2/28/02
Mexico	10 Yr Cetes	9.27	0.36%	-0.76%	Long	Cover Short & Buy	2/28/02
Brazil	10 Yr Govt	13.36	0.35%	0.48%	Long	Hold	2/28/02
Japan	10 Yr JGB	0.54	-0.04%	-0.28%	Short	Hold	2/28/02
Australia	10 Yr Govt	3.90	-0.06%	0.12%	Short	Cover Long & Sell	2/28/02
S. Korea	10 Yr Govt	3.75	-0.19%	-0.36%	Short	Hold	2/28/02
China	10 Yr Govt	2.91	0.02%	-0.16%	Long	Cover Short & Buy	2/28/02
India	10 Yr Govt	7.46	0.10%	-0.45%	Long	Cover Short & Buy	2/28/02
Germany	10 Yr Bund	2.69	0.41%	-0.14%	Long	Cover Short & Buy	2/28/02
France	10 Yr OAT	3.17	0.19%	0.47%	Long	Hold	2/28/02
Italy	10 Yr BTP	4.56	0.60%	0.13%	Long	Hold	2/28/02
Switzerland	10 Yr Conf	1.50	0.15%	0.33%	Long	Hold	2/28/02
UK	15 Yr Gilt	4.17	1.03%	0.71%	Long	Hold	2/28/02
Russia	10 Yr Govt	11.00	-3.17%	-1.90%	Short	Hold	2/28/02
S. Africa	10 Yr Govt	10.11	0.04%	0.36%	Long	Hold	2/28/02

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Gamma Macro Model Forecasts for May 2023

TABLE 3
1 MONTH FX MODEL FORECASTS (%)

Currency	Spot FX Rate	1 Mo Forecast	Previous Forecast	Position	Trade	Updated
EUR/USD	1.1012	0.85%	0.71%	Long	Hold	4/28/23
GBP/USD	1.2528	0.33%	0.24%	Long	Hold	4/28/23
USD/CHF	0.8922	-0.26%	-0.17%	Short	Hold	4/28/23
USD/NOK	10.6976	-0.20%	0.28%	Short	Cover Long & Sell	4/28/23
USD/SEK	10.2970	-0.28%	-0.11%	Short	Hold	4/28/23
USD/JPY	136.46	0.60%	0.11%	Long	Hold	4/28/23
AUD/USD	0.6594	-0.39%	-0.60%	Short	Hold	4/28/23
NZD/USD	0.6166	-0.19%	-0.28%	Short	Hold	4/28/23
USD/KRW	1,337.90	0.35%	0.24%	Long	Hold	4/28/23
USD/CNY	6.9155	0.41%	0.08%	Long	Hold	4/28/23
US/INR	81.79	0.43%	0.34%	Long	Hold	4/28/23
USD/SGD	1.3352	0.44%	0.39%	Long	Hold	4/28/23
USD/CAD	1.3590	0.25%	0.34%	Long	Hold	4/28/23
USD/BRL	5.0038	0.19%	0.28%	Long	Hold	4/28/23
USD/MXN	18.00	-0.60%	-0.55%	Short	Hold	4/28/23
USD/RUB	79.75	-0.59%	-0.88%	Short	Hold	4/28/23
USD/ZAR	18.35	0.26%	0.08%	Long	Hold	4/28/23
BTC/USD	29,224.50	3.84%	5.45%	Long	Hold	4/28/23

TABLE 4
1 MONTH COMMODITY PRICE FORECASTS (%)

Commodity	Cash / Futures Price ($)	1 Month Forecast	Previous Forecast	Position	Trade	Updated
Gold	1,987.00	1.03%	0.43%	Long	Hold	4/28/23
Silver	24.90	0.35%	-0.01%	Long	Cover Short & Buy	4/28/23
Platinum	1,068.56	-0.11%	0.19%	Short	Cover Long & Sell	4/28/23
Palladium	1,526.76	-0.75%	-1.21%	Short	Hold	4/28/23
Aluminum	2,308.50	-3.03%	-0.86%	Short	Hold	4/28/23
Copper	8,569.50	-3.58%	-1.15%	Short	Hold	4/28/23
Lead	2,121.85	-1.61%	-1.35%	Short	Hold	4/28/23
Nickel	24,062.00	-3.10%	-1.09%	Short	Hold	4/28/23
Tin	25,935.00	-1.88%	-0.84%	Short	Hold	4/28/23
Zinc	2,621.25	-2.64%	-0.13%	Short	Hold	4/28/23
WTI Crude Oil	82.16	0.00%	0.00%	Neutral	Hold	4/14/23
HH Natural Gas	2.25	0.80%	4.83%	Long	Hold	4/20/23

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