

April 2022

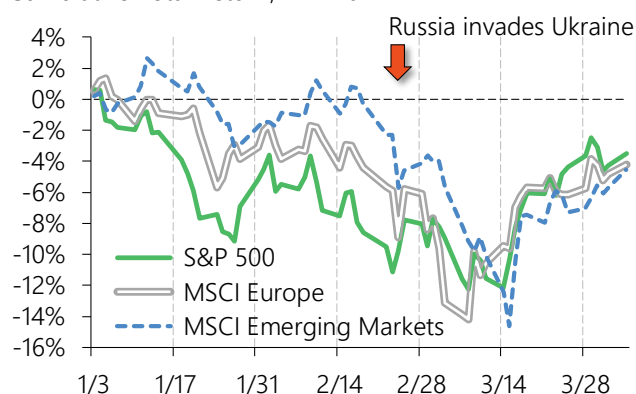
GLOBAL INVESTMENT OUTLOOK AND STRATEGY

- The Markets Fear Stagflation and a Central Bank Policy Mistake
- The Russia-Ukraine Conflict Exacerbates Stagflation Risks
- U.S. Economy Has Strong Underpinnings, but Slowdown Likely
- Strong Fund Flows Sustaining Relatively Resilient Equity Markets
- Keeping Portfolios Well-Diversified in Anticipation of More Volatility

Equities Bounced Back After Ukraine Invasion, But Macroeconomic Risks Are Mounting

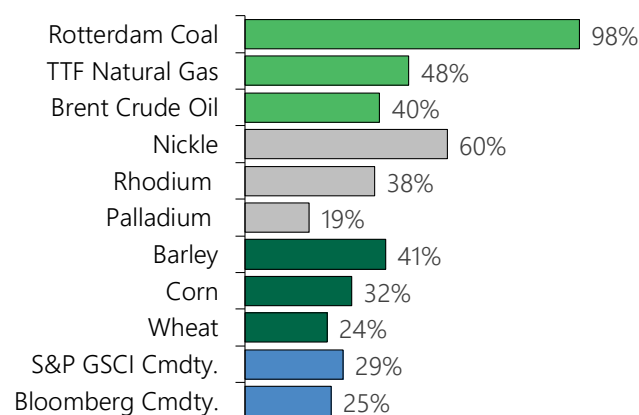
1 Equities Recovering Against Mounting Risks

Equity Index Performance
Cumulative Total Return, YTD 2022



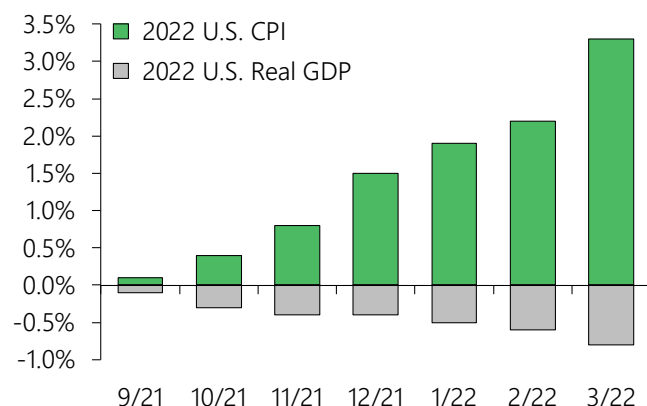
2 Inflation Exacerbated by Ukraine Invasion

Year-to-Date Price Change, Through 3/31/22



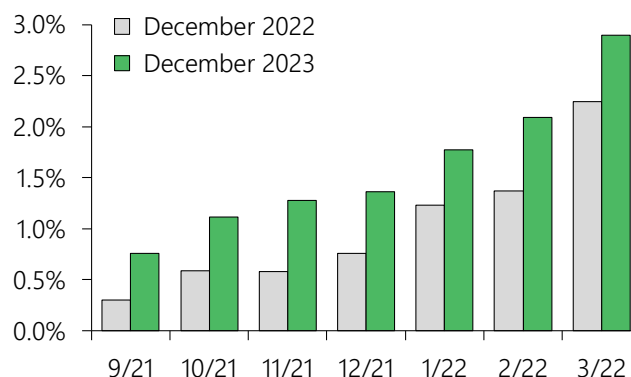
3 Surge in CPI Weighing on Economic Outlook

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4 Market-Implied Fed Funds Rate Climbing

Market-Implied Fed Funds Rate
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Sources: FactSet, Bloomberg, CME Group, 4/6/22

The Russia-Ukraine Conflict Amplifies Stagflation Risks

Russia represents less than 3 percent of world GDP but is an essential producer of various energy, metals, and agricultural commodities. Consequently, its attack on Ukraine (also important in agriculture) has substantial and far-reaching implications for the global economy. For instance, the invasion has exacerbated inflationary pressures and, along with the related sanctions, helped drive the Bloomberg Commodity Index up +25 percent year to date and foster food insecurity. Energy costs, in particular, have ballooned, with Rotterdam coal up +98 percent year to date through March 31, Brent crude oil up +48 percent, and TTF natural gas up +40 percent. Given a high dependence on Russian energy (about 22 percent of energy needs supplied by Russia), Europe's economies are especially vulnerable to rising prices and potential supply disruptions.

Western nations have aligned against Russia, imposing extensive sanctions to weaken its economy and soften Putin's will. Still, it is unclear if sanctions will have the desired effect or are only a "tax" on growth worldwide. Based on the current situation, a stalemate in which the conflict lasts months, if not years, is possible. Such a scenario suggests a lengthy period of high geopolitical uncertainty that would keep commodity costs elevated and government officials on edge. We are hopeful that NATO will avoid an armed confrontation with Russia and that its involvement will stay limited to equipping Ukraine. However, the war is an added headwind at a time of rising inflation, tightening financial conditions, lingering supply issues, and moderating GDP forecasts.

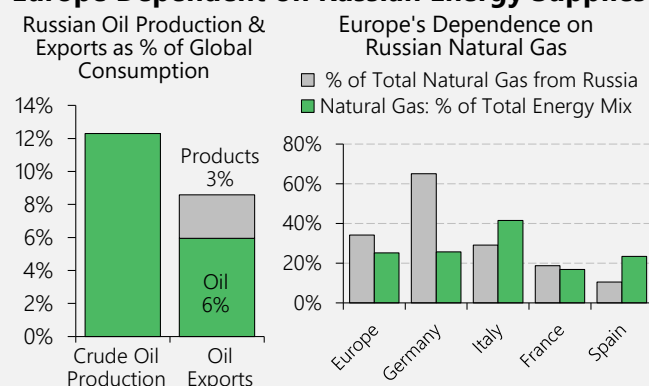
The conflict is exacerbating supply chain issues in some sectors. For instance, IHS just cut its 2022 global auto production forecast by 2.6 million units due partly to a loss of Ukraine-sourced electrical wiring harnesses and worsening semiconductor supply issues. Also, the two Ukrainian firms that manufacture about one-half of the world's semiconductor grade neon stopped operations after the Russian invasion. Moreover, Russia produces about 40 percent of the world's palladium – a precious metal vital to semiconductors, catalytic converters, and many other goods. Russia is also an important supplier of platinum, gold, and nickel. The prices of metals rose into the invasion but have since ebbed on easing supply concerns. Nonetheless, the possible loss of commodity supplies is a significant tail risk for the global economy.

Russia's importance to the global energy market also implies that crude oil and natural gas prices will remain elevated, barring a collapse in demand. Sanctions have contributed to a surge in oil prices due to an inefficient reshuffling of flows and near-term supply uncertainty. Of course, Russia's ~11 million barrels per day (b/d) of oil output has not vanished and will likely continue to

find buyers. Yet, a broader boycott of Russian crude oil and the second-order impacts of withdrawing Western oilfield technology and expertise may diminish Russia's long-run oil production capacity. A decline in Russian supply would come against an already tight oil market after numerous years of industry underinvestment and limited new supply sources in the intermediate term. Goldman Sachs estimates that a 0.5 million b/d supply shortfall for 12 months under this scenario would raise crude oil prices by \$14 per barrel.

As for natural gas, the European Union just proposed an ambitious plan to reduce its dependence on Russian supplies by over one-third by shifting to other sources, accelerating renewables usage, and conserving energy. Still, securing incremental supply will prove difficult, as liquefied natural gas capacity is currently constrained. In addition, building out renewable electricity sources will take years and require meaningful sums of capital. Russia's demand to be paid in rubles for its natural gas amplifies Europe's immediate energy security concerns and underscores the urgency. Meanwhile, natural gas prices should remain elevated.

Europe Dependent on Russian Energy Supplies



Source: BP Statistical Review of World Energy 2021, 7/8/21

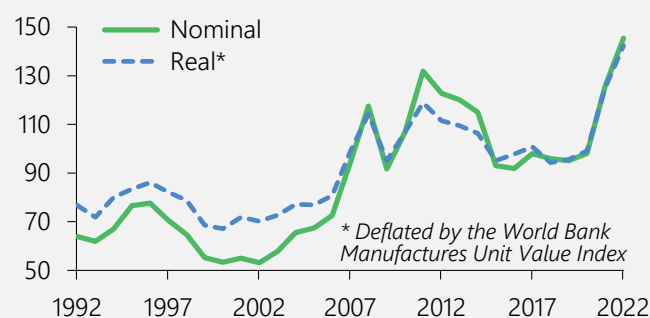
The impact of rising costs for natural gas extends to the world's food supply, as it is also a critical component in nitrogen-based fertilizer production. European natural gas prices rose fivefold in 2021 as unfavorable weather lifted demand, renewable energy fell short, key supply sources went offline for a time, and supply competition grew amid Asia's economic recovery. Ballooning costs have forced European fertilizer producers to cut output, worsening already-tight global supplies and increasing prices to multi-year highs. Moreover, Russia accounts for two-thirds of global ammonium nitrate production and recently paused exports to ensure domestic supply. Continuing fertilizer shortages may lead to lower global crop yields, higher food prices, and, along with a rise in refugees, an international humanitarian crisis.

The World Food Price Index jumped +28 percent to an all-time high in 2021 and is up +19 percent year to date

through March, owing to harvest shortfalls and strong demand. Greater food production is the typical reply to high prices. Yet, rising input costs, fertilizer shortages, and the Russia-Ukraine war put the global food supply at risk. Russia and Ukraine comprise about 14 percent of global wheat production and 30 percent of exports and are important suppliers of many other agricultural products. Accordingly, Black Sea wheat prices climbed about +15 percent after the invasion but have softened slightly more recently. Food insecurity and high prices have historically led to civil unrest and are notable risks for emerging nations already beset by soaring inflation and tightening financial conditions.

Surging Food Costs Often Leads to Civil Unrest

World Food Price Index
2014-2016 = 100



Source: Food and Agriculture Organization, 4/3/22

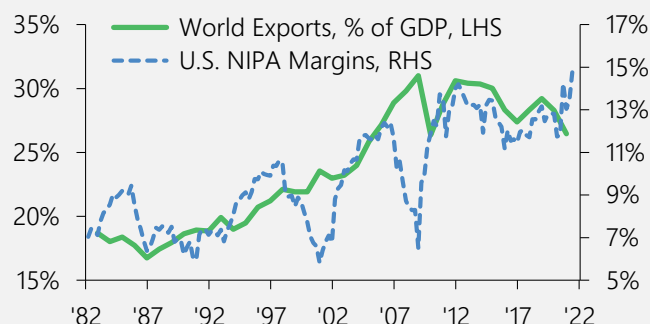
Russia's aggression has done what President Obama's coaxing and President Trump's admonishing could not – it convinced European allies to increase spending on defense. While U.S. defense spending has consistently exceeded NATO guidelines of 2 percent of GDP, most other members have long fallen short of this goal. Yet, last month Germany proposed a “special defense fund” worth €100 billion and pledged to invest over 2 percent of GDP in defense, up from 1.5 percent in 2021. Other members will likely follow suit as geopolitical tensions persist. Total NATO defense spending could rise about +25 percent if all the European members boosted their budgets to 2 percent of GDP, providing a long tailwind for defense contractors. President Biden also proposed a \$31 billion (or +4 percent) year-over-year increase in 2023 U.S. defense spending in response to mounting threats from China and Russia.

Rising geopolitical unease and the downsides of global supply chains exposed by the pandemic may accelerate the pace of de-globalization as well, possibly pressuring corporate margins and raising prices. World exports as a percentage of GDP rose steadily for several decades before peaking at 31 percent in 2011. Not coincidentally, inflationary pressures stayed relatively benign over this period, and peak corporate margins reached a new high in each successive business cycle since the early 1980s. However, while any shift in supply chains will take time

(and could be costly), the reshoring of production back to the U.S. could be a strong tailwind for capital goods firms, commercial construction, and MRO distributors.

Globalization Has Slowly Ebbed Since 2011

World Trade vs U.S. Business Profits



Source: World Bank, S&P Global, 3/31/22

The increased global uncertainty and risk of additional exogenous shocks might negatively impact stocks via a higher equity risk premium (ERP). The global and U.S. market ERPs are above the historical average of about +4 percent but down from the high single-digit figures observed within the last decade. At a minimum, the elevated risk backdrop suggests equity valuations may not absorb higher interest rates (through a lower ERP) and that stocks are susceptible to a further contraction in PE multiples. In addition, the inflationary pressures worsened by the conflict will keep the Federal Reserve on a steady tightening path. Thus, the “Fed Put” – i.e., central bank intervention in periods of financial market stress – may go dormant, adding to near-term risks.

Portfolios remain well-diversified given the wide range of possible outcomes given the volatile macroeconomic backdrop. As the Russia-Ukraine war will likely have a lasting influence on the energy and defense sectors, we have opportunistically added to positions. Moreover, while growth stocks, particularly within the tech sector, have been under pressure in recent months, we suspect they will regain investor favor as the global economic slowdown becomes more evident. Conversely, we are incrementally cautious on consumer sectors, as higher costs pressure margins, and durable goods sales mean-reverts from the stimulus-led surge.

We expect significant market volatility in the near-to-intermediate term as investors continually reassess the outlook relative to dynamic geopolitical and economic variables. Thus, we continue to look for opportunities to upgrade portfolios during equity market dislocations to improve risk-reward profiles. In addition, given the potential our macroeconomic projections could change considerably (for better or worse) over the next several months, we recognize that there may be a need to strategically “pivot” as market fundamentals dictate.



LEIs Underscore U.S. Economy's Strength, But Growth Steadily Reverting to Trend

The U.S. economy is currently on a solid footing, though inflation and the risk of further supply shocks weigh on confidence. The Leading Economic Index, which generally leads the business cycle by roughly 12 to 18 months, is near an all-time high. Moreover, the Composite PMI rose to an 8-month high of 58.5 (firmly expansionary) in March, underscoring the resiliency of the domestic economy. Record household net worth of \$150.3 trillion, accumulated excess savings of about \$2.5 trillion, historically low debt service ratios, and “tappable” home equity of almost \$10 trillion leave consumers well-placed to sustain the expansion. However, projected energy and food inflation of +12 percent in 2022 could pull about \$278 billion (or +1.8 percent) from discretionary purchases. History shows that durable goods spending usually takes the largest hit, but inventory restocking may soften the blow. Also, while rising mortgage rates may cool the red-hot housing market, improving nonresidential construction can help take up the slack. Despite numerous crosscurrents, we project real GDP will return to the pre-pandemic trendline by year-end, growing +3.0 percent in 2022 versus +5.7 percent in 2021. Monetary tightening, geopolitical risks, and legislative uncertainty cloud the outlook for 2023 and beyond. However, we expect real GDP growth will ultimately revert to its long-term trend of +1.5 to +2.0 percent.

Aggressive Federal Reserve Tightening a Risk to 2023-2024 Economic Outlook

The Federal Reserve (Fed) has turned increasingly hawkish since tabling its transitory inflation thesis in late 2021, raising the chance that it will tighten too aggressively and push the economy into recession. The war in Ukraine has exacerbated already-broadening inflationary pressures, with the consensus estimate for 2022 headline CPI rising 180 basis points year to date to +6.2 percent. Price shocks often provoke disinflationary demand destruction. However, consumer spending has remained buoyant (so far) thanks to excess savings, rising wages, credit growth, a positive wealth effect, and a bit of cabin fever. While gradually normalizing, supply conditions also remain beset by Covid-related disruptions, spot shortages, and, most recently, war-caused commodity shocks. Accordingly, the Fed has stopped injecting more liquidity into the financial system via asset purchases and signaled a terminal fed funds rate of +2.8 percent in 2023 (the current target range is 25-50 basis points after the March hike). We are hopeful it can skillfully navigate moderating economic growth, accumulating geopolitical uncertainties, and enduring Covid-19 setbacks to orchestrate a soft landing. Yet, a concurrent reduction in the \$9 trillion balance sheet could prove tricky, and the Fed's spotty track record merits caution (Exhibit 1).

Inflation Worsened by Russia-Ukraine War, Putting Fed Increasingly Behind Curve

The Fed finds itself behind the curve as inflation broadens beyond the initial pandemic-induced supply-demand imbalances for goods (Exhibit 2). A “perfect storm” of factors have contributed to lingering inflation: rolling Covid-19 flare-ups, slow-to-clear supply chain logjams, cascading

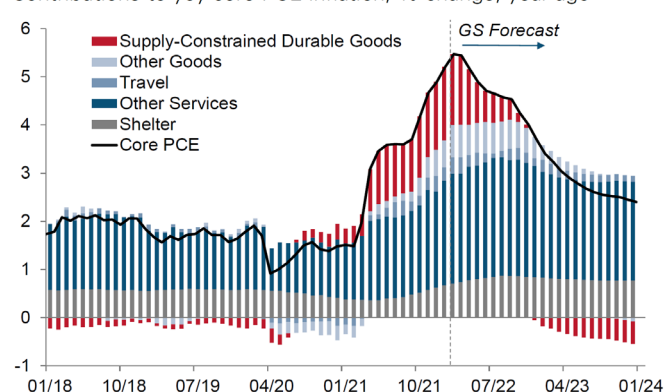
Exhibit 1. Federal Reserve Tightening Cycles

Tightening Period	Chg. in RFR	Recession Start	Policy-Induced Recession?
2/72 - 7/74	960bp	Dec-73	Hard landing
1/77 - 4/80	1,300bp	Feb-80	Hard landing
7/80 - 1/81	1,000bp	Aug-81	Hard landing
2/83 - 8/84	315bp	--	Soft landing
3/88 - 4/89	325bp	Aug-90	Soft-ish landing
12/93 - 4/95	310bp	--	Soft landing
1/99 - 7/00	190bp	Apr-01	Soft-ish landing
6/04 - 6/06	425bp	Jan-08	Policy not main recession driver
10/15 - 1/19	225bp	Mar-20	Policy not main recession driver
3/22 - ??	??	??	

Source: Goldman Sachs, 3/14/22

Exhibit 2. U.S. Core PCE Price Index Forecast

Contributions to yoy core PCE inflation, % change, year ago



Source: Goldman Sachs, 3/31/22



spot shortages, tight labor markets, natural disasters, and, most recently, Russia's invasion of Ukraine. Yet, the most significant culprit is perhaps the unprecedented stimulus injected into the economy. For the two-year period starting February 2020, total U.S. central bank liquidity injections and fiscal stimulus summed to over \$12 trillion (or about 60 percent of annual GDP). During that same time, the U.S. money supply ballooned +41 percent, or at an annualized pace three times the long-term average of +6 percent per year. By contrast, the money supply grew about +10 percent during the recession years of 2001 and 2008. When combined with supply constraints, the federal stimulus contributed to a potent blend of cost-push and demand-pull inflation. If left unchecked, accumulating inflationary pressures may morph into a persistent wage-price spiral and stagflation on already-slowing GDP growth. However, we project the year-over-year change in core PCE prices will start to moderate this year, helped by base effects and goods disinflation (Exhibit 3). Moreover, China has begun to stimulate its economy (and, de facto, the global economy), likely allowing the Fed to tighten more than it could otherwise. Fiscal stimulus via the student loan pause and gas tax holidays will also offer cover for the Fed.

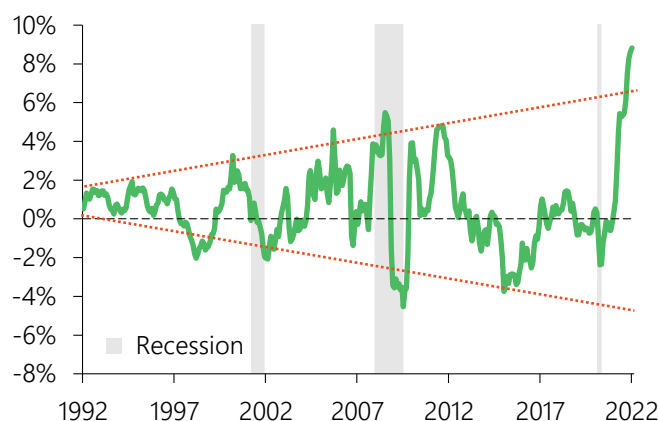
China Faces New Macro Challenges, But GDP Growth Could Stabilize by Midyear

Chinese policymakers are targeting 2022 real GDP growth of "around +5.5 percent" versus the annualized average of +6.0 percent achieved over the past five years. However, the target may prove ambitious amid multiple headwinds. First, the deepening slowdown in housing is yet to stabilize. Second, China is experiencing its most significant Covid-19 flare-up since the original Wuhan outbreak in early 2020. Adherence to China's zero-Covid strategy has led to tightened mobility restrictions and partial lockdowns, slowing economic activity and amplifying global supply chain concerns. Third, while the war in Ukraine has a limited direct economic impact on China, it could dent trade with Europe (a top trading partner). Assuming officials can bring the latest Covid wave under control in the second quarter, we believe China's economy could stabilize by mid-2022, with growth bolstered by a post-lockdown demand recovery and fiscal stimulus. Case in point, the augmented budgetary balance as a percent of GDP could widen by +1.5 to +2.0 percentage points in 2022 (Exhibit 4). Moreover, despite additional inflationary pressures tied to the war in Ukraine, monetary easing should continue through at least the first half of 2022, given sluggish domestic demand. Consequently, we expect the People's Bank of China to implement more interest rate and reserve requirement ratio cuts.

Euro Area Economy Held Hostage to High Energy Prices & Supply Disruptions

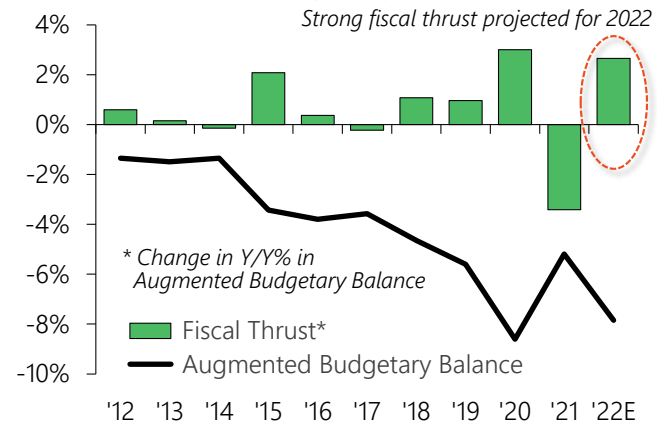
The Russia-Ukraine conflict could significantly dampen Euro Area economic growth, primarily via higher commodity costs and supply chain disruptions. The region had already felt the pinch of high energy bills before the invasion, with natural gas costs in Europe rising fivefold in 2021 and crude oil up +70 percent. As a result, Euro Area headline CPI climbed to an all-time high (since 1996) of +5.9 percent in February, with energy responsible for about half of the increase. Pre-war, we expected energy prices to roll off and lead to headline CPI of around +2.5 percent by year-end 2022. Yet, prolonged energy inflation (Russia ≈35 percent of natural gas imports)

Exhibit 3: PCE Goods Inflation (Y/Y Percent)



Source: U.S. Bureau of Economic Analysis, 3/31/2022

Exhibit 4: China's Budgetary Balance, % of GDP



Source: Alpine Macro, 3/8/22



and the associated spillover effects would be substantial economic headwinds (Exhibit 5). The Euro Area Manufacturing PMI declined to a 14-month low of 56.1 in March, though business confidence has borne the most immediate impact of the conflict. For example, the IFO survey of German business expectations dropped to its lowest point since March 2020. The Euro Area economy was already moderating as global financial conditions tightened, stimulus tailwinds faded, and inflation took a bite out of consumer incomes. However, energy disruptions and the negative impact on disposable incomes alone could slash real GDP growth by around 150 basis points in 2022 (assuming the conflict persists), though fiscal spending may absorb some of the effects. As a result, we lowered our 2022 real GDP forecast to +2.5 percent from +4.0 percent.

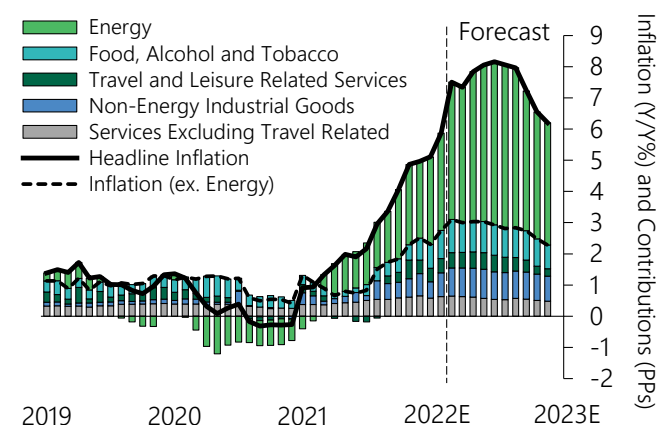
Japan Faces Higher Prices & Lower Growth, BOJ's Position Increasingly Untenable

The economic fallout from the war in Ukraine has dampened Japan's post-pandemic recovery prospects. Accordingly, we expect Japan's GDP to grow about +2.0 percent in calendar 2022. Direct trade with Russia and Ukraine is limited, but Japan's exports to Europe are 12 percent of the total and will likely weaken. Furthermore, while headline inflation has been tame relative to other advanced economies, the surge in commodity prices could push readings appreciably higher. Consumer spending remains set for a reopening boost following the recent Covid wave, but higher prices will erode real incomes and threaten the recovery's magnitude. Past bouts of temporary inflation have often coincided with sharp pullbacks in consumption, though excess savings accumulated during the pandemic could soften the blow. Recognizing the heightened uncertainty in the current backdrop and the external nature of the price pressures, the Bank of Japan (BoJ) has maintained its highly accommodative policy stance. As a result, the yen has sunk to a six-year low relative to the U.S. dollar as other central banks continue toward policy normalization. A weaker yen helps on the trade front but compounds the inflation issue due to Japan's heavy reliance on energy and raw material imports and may yet force the BoJ's hand.

A Mixed Outlook for Emerging Markets on Accumulating Headwinds

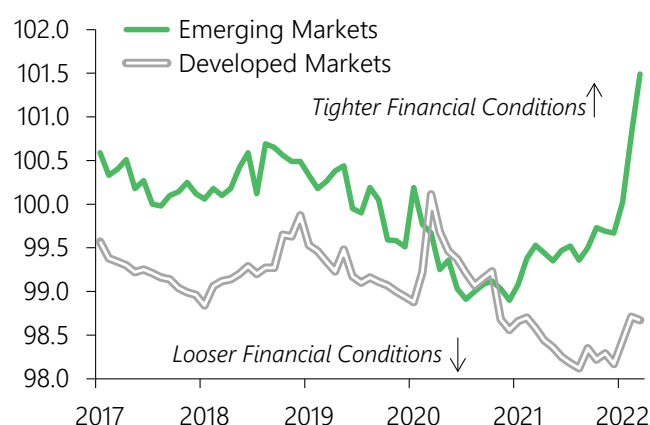
Emerging Market (EM) economies face rising growth headwinds from Russia-Ukraine supply shocks and interest rates. Surging commodity prices, notably food and energy, have worsened existing inflationary pressures. While the commodity-driven economies of Latin America will benefit from higher commodity export prices, the hit to domestic demand from rising inflation will mitigate the impact. Higher U.S. interest rates will also raise EM borrowing costs, weaken currencies against the U.S. dollar, and increase debt burdens. Moreover, financial conditions have tightened considerably in recent months (Exhibit 6). EM central banks continue to hike interest rates to address inflation but have been careful not to choke off growth. Accordingly, the consensus estimate for EM inflation in 2022 has risen +90 basis points to +5.0 percent year to date, while real GDP growth has declined -46 basis points to +4.5 percent. India is the most at risk, given it is a crude oil importer, its government debt burden is about 90 percent of GDP, and its total debt burden is 173 percent of GDP. However, India has substantial foreign exchange reserves, at about 20 percent of GDP, which should help alleviate some concerns.

Exhibit 5: Euro Area Consumer Price Index



Source: Eurostat, Bloomberg Economics, 4/1/22

Exhibit 6: Global Financial Conditions Indices

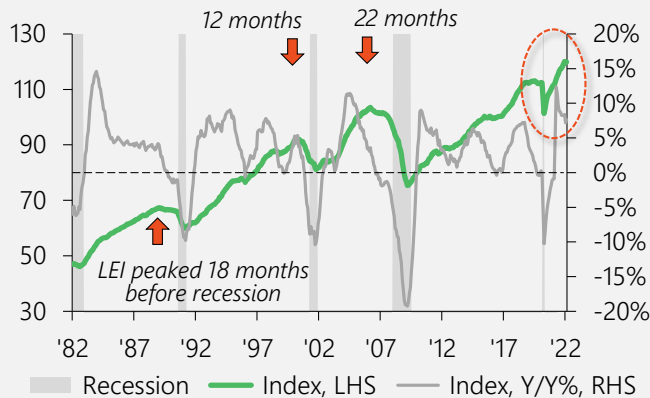


Source: Goldman Sachs, 3/31/22

Global Macro: Other Notable Data Points

Record LEI and Growing Mid-Single Digits Y/Y

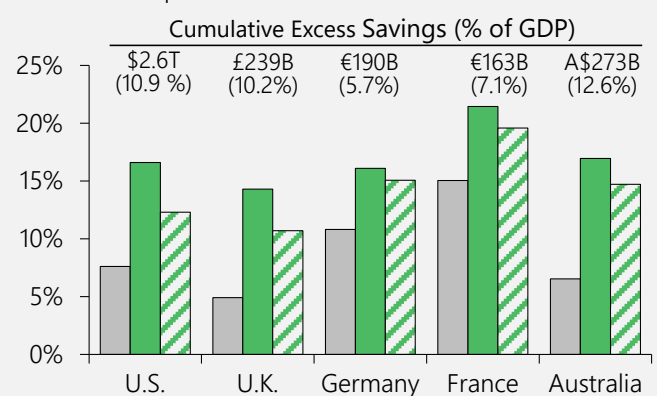
U.S. Composite Index of 10 Leading Indicators
2010 = 100



Source: The Conference Board, 3/18/22

Huge Excess Savings Across Developed Markets

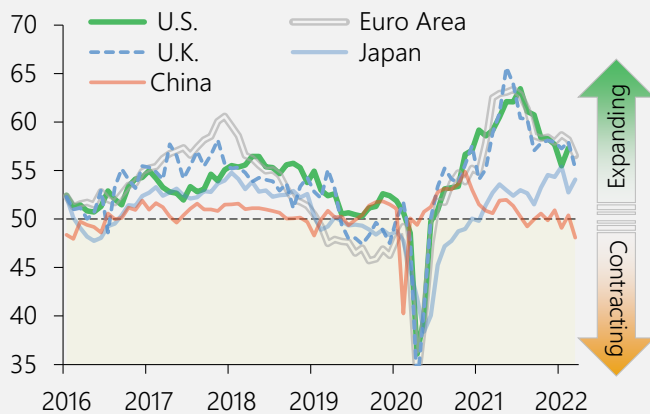
Household Savings Rates
Percent of Disposable Income



Source: Société Générale Research, National Sources, 3/31/22

U.S. & Europe PMIs Still Firmly Expansionary

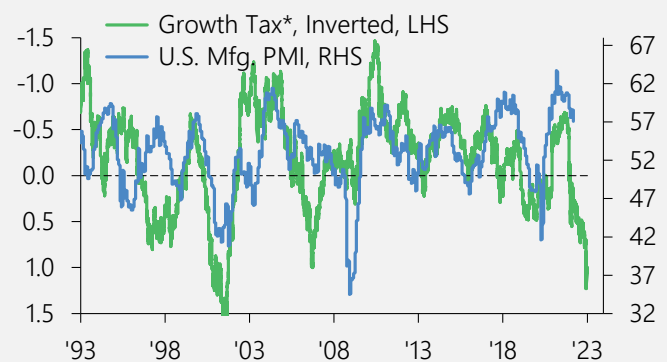
Manufacturing Purchasing Managers' Indices



Source: S&P Global, 4/1/22

"Growth Tax" a Sizable Headwind Into Year-End

Growth Tax* vs U.S. Manufacturing PMI

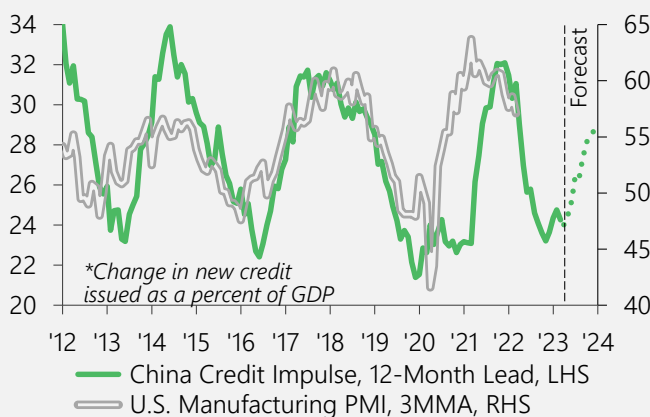


* Based on the U.S. dollar, the yield curve, & commodity prices; standardized and advanced 9 months

Source: Alpine Macro, Institute for Supply Management, 4/4/22

Lagged Benefit from China Stimulus in 2023

China Credit Impulse* vs U.S. Manufacturing PMI



Source: Bloomberg, Institute for Supply Management, 4/3/22

Inventory Shortage to Inventory Glut?

U.S. Retail Sales & Inventories, ex. Autos
12/31/11 = 100, Seasonally-Adjusted



Source: U.S. Census Bureau, 3/31/22

**Fed Begins to Tighten: Additional Hikes and Balance Sheet Reduction Coming**

In a widely anticipated move, the Federal Reserve (Fed) raised the fed funds rate a quarter of a percent to a target range of 0.25 to 0.50 percent at its March meeting. We believe the Fed is now much less concerned with its goal of maximizing employment and is sharply focused on bringing inflation down toward its long-term objective of 2.0 percent. Accordingly, we expect additional fed policy actions to result in the fed funds rate increasing to 1.0 percent by the end of June and at least 2.0 percent by year-end. Consequently, the Fed's shift in stance led to the worst quarter for bonds since the 1980s, with the Bloomberg Aggregate Bond Index down -5.9 percent. In addition, the Treasury yield curve has begun to invert, heightening recession fears. A reduction in the Fed's record \$9 trillion balance sheet, which we expect to start in May or June, may also pressure the economy and financial markets. The Fed intends to reduce its holdings of MBS in the future and primarily utilize Treasury securities in future policy activities. We estimate the Fed will gradually reduce its balance sheet by about \$25 billion per month initially and then accelerate the pace to an annualized rate of one-half of a trillion dollars a few months later. We also believe the balance sheet reduction is equivalent to an interest rate hike of about 0.25 to 0.50 percent and that the Fed will reduce its balance sheet to about \$5 trillion.

Inflation Persists as Labor Shortages Continue

The Consumer Price Index (CPI) surged +7.9 percent year over year in February, reaching its highest level since the early 1980s. Like previous periods of accelerating inflation, energy and food have had an outsized impact (with a shared weight of 21 percent and contributing almost 40 percent of the year-over-year price increase). Core CPI, which excludes food and energy, is also very high, rising +6.4 percent year over year for the month. High labor costs (exacerbated by labor and supply shortages) and excess cash in the financial system are contributing factors. We expect a fading fiscal impulse, depleting savings, rising taxes, tightening monetary policy, and high inflation to lead to lower demand and, ultimately, moderating inflation by the second half of 2022. The inflation spike will negatively affect economic growth, as wage growth will not be sufficient to offset the erosion in real incomes caused by the rapid rise in consumers' cost of living. We also expect the labor force participation rate to increase from the current 62.4 percent figure to the pre-pandemic, February 2020, level of 63.4 percent, which translates into about 2.6 million more workers. The added workers should help alleviate supply constraints and lessen inflationary pressures.

Taxable Fixed Income Strategy

We reduced our duration exposure in anticipation of rising interest rates. Moreover, we project that bonds with maturities between two and five years will experience the most significant rise in yields and have reduced exposure to that part of the curve. Our strategy has utilized floating rate coupon securities, which have coupon rates that adjust as interest rates change and are therefore less rate-sensitive than fixed-rate coupon bonds. Our fixed-rate bonds are focused on shorter maturities and bonds of twenty years or more, as we expect greater stability in interest rates along those parts of the curve. We have also reduced our investments in longer maturity, cyclical corporate bonds. We believe the risk of spread widening in those securities has risen, as we expect increasing inflation and the ongoing Russia-Ukraine conflict to have a negative impact on corporate earnings. We have expected inflation to accelerate and, as a result, have made and maintained substantial investments in Treasury Inflation-Protected Securities (TIPS). We reduced our exposure to longer maturity TIPS and are focused primarily on TIPS with maturities of about two years or less as those maturities coincide with our expectations about the future path of inflation. We expect some weakness in MBS returns as rising interest rates and the Fed's intention to reduce holdings will lengthen the average time to principal repayment. Our MBS strategy has focused on seasoned, high coupon mortgages, which typically benefit from a slowdown in prepayment activity. We expect to see opportunities in the MBS market later this year, driven by prepayment-induced dislocations.



Worst Municipal Market Performance in Over 40-Years

Municipal bond performance in the first quarter of 2022 was the worst since the third quarter of 1981. Yields on tax-exempt bonds increased markedly, although it is worth noting that they are a far cry from the double-digit levels the last time performance was as poor. Yields on most high-grade tax-exempts rose by a wider margin than comparable maturity U.S. Treasuries, resulting in higher yield ratios. Specifically, shorter Treasury yields increased about 120-160 basis points during the quarter, while longer Treasury yields increased roughly 55-85 basis points. Conversely, shorter tax-exempt yields increased about 140-150 basis points, while longer tax-exempt yields increased about 105-120 basis points. Credit spreads widened from historically tight levels during the quarter as absolute yields on higher-quality debt became more attractive.

Duration and Credit Quality Drive Performance, but Nowhere to Hide

Duration was the primary performance driver during the first quarter, as longer bonds underperformed shorter bonds. Lower-quality bonds also underperformed higher-quality bonds. However, municipal bond performance was weak across the board regardless of the duration, credit quality, or industry, with a marked rise in interest rates across the curve. Housing revenue bonds were modestly weaker than most other revenue bond sectors. The weakness in housing bonds was due to their longer than index duration and lower than index couponing, resulting in a duration extension on many bonds as interest rates rose.

Fund Flow Cycle Reverses and Trading Activity Picks Up

After record inflows last year, tax-exempt mutual funds had approximately \$23 billion of outflows during the first quarter. The dramatic increase in Treasury rates drove this outflow cycle, not any degradation in municipal credit fundamentals. Moreover, it is worth noting that tax-exempt exchange-traded funds had approximately \$3 billion of inflows over the same period. Accordingly, there was a significant increase in secondary market trading activity. We saw nearly \$64 billion of bid-wanted volume and thirty days above \$1 billion last quarter, the highest since 1Q20 and 4Q18, respectively. New issue volume was down from 4Q21 and 1Q20, respectively, but not markedly different from the average amount of first-quarter supply.

An Aggressive Federal Reserve Should Mean the Worst Is Over

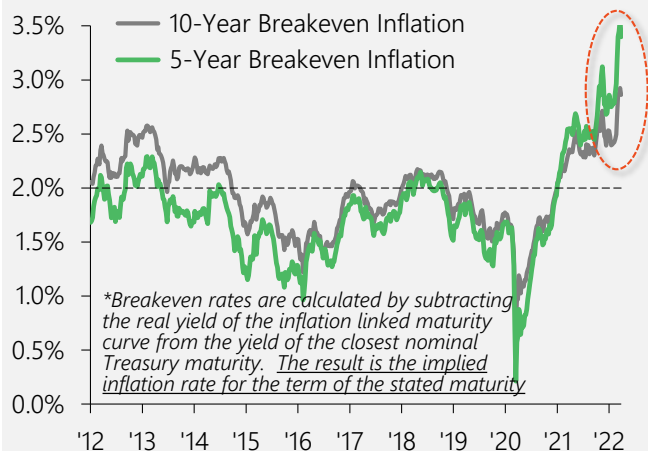
We expected tax-exempt rates to rise during 2022, but we did not expect them to increase this quickly. While the Fed is perceived to be behind the curve in dealing with inflation, messaging indicates they now see inflation as the primary risk to the economy. Thus, while we are less sure about when supply-side constraints impacting inflation will diminish, we think the Fed is likely to act aggressively during 2022 to get the demand side of inflation under control. If they are successful in a reasonable timeframe, we have likely experienced most of the pain in terms of performance. Underlying credit fundamentals for municipal securities are as strong as they have been in decades. Moreover, higher yield levels are increasingly interesting for both crossover buyers and traditional municipal market participants.

Tax-Exempt Fixed Income Strategy

Given the increase in short rates, we can now purchase shorter duration tax-exempts at acceptable yields, and such bonds seem likely to become increasingly attractive. We are also buying bonds with expected average lives meaningfully shorter than stated maturities, particularly when at attractive average life yields. Conversely, the sharp rise in rates has us opportunistically selling or swapping out of longer-duration bonds that do not have significant average life stories. We plan to reduce duration in intermediate portfolios over the next few months, as more attractively priced short and intermediate duration bonds become available.

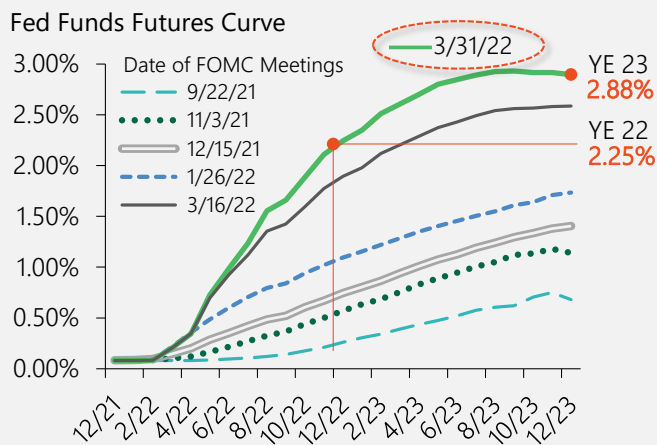
Fixed Income: Other Notable Data Points

Inflation Expectations Have Surged Higher



Source: Federal Reserve Bank of St. Louis, 4/1/22

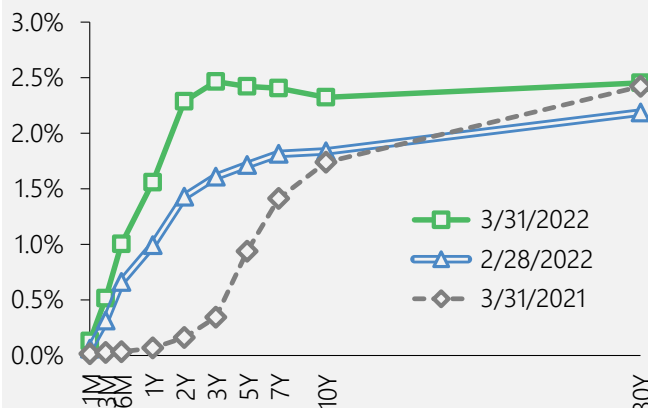
Fed Fund Futures Curve Also Shifting Upward



Source: CME Group, 3/31/22

The Treasury Yield Curve Continues to Flatten

U.S. Treasury Yield Curve

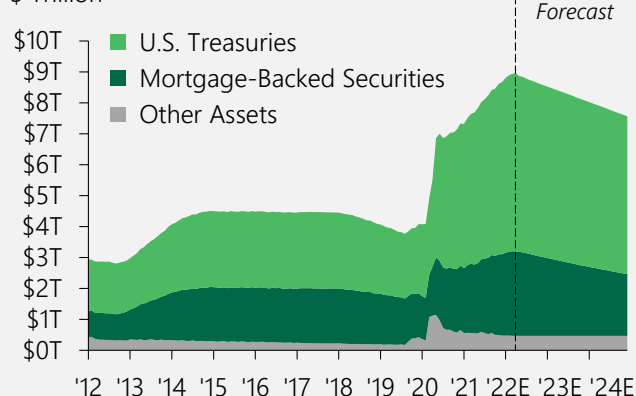


Source: FactSet, 3/31/22

Fed Will Likely Begin Reducing Assets in May

U.S. Federal Reserve Assets

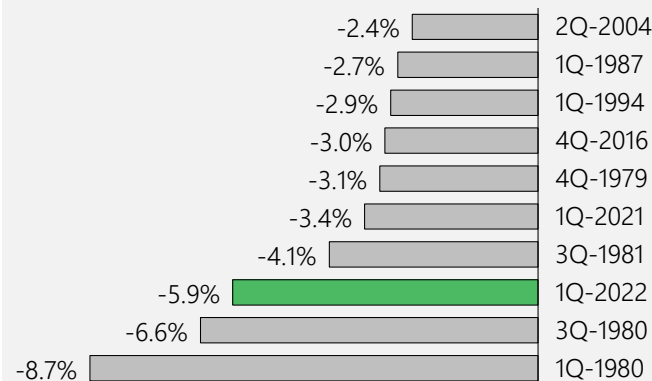
\$ Trillion



Source: U.S. Federal Reserve, Sit Investment Associates, 4/7/22

1Q22 = Worst Taxable Returns Since 1980

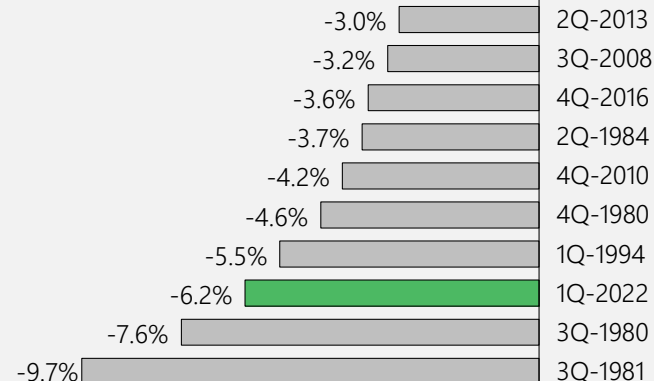
Ten Worst Quarterly Returns Since 1980
Bloomberg U.S. Aggregate Bond Index



Bloomberg, 3/31/22

And Worst Municipal Returns Since 1981

Ten Worst Quarterly Returns Since 1980
Bloomberg Municipal Bond Index



Bloomberg, 3/31/22



GLOBAL EQUITIES: ENVIRONMENT AND STRATEGY

The T.I.N.A.-Effect Cushioned Equity Markets in1Q; Strong Fund Flows Continue

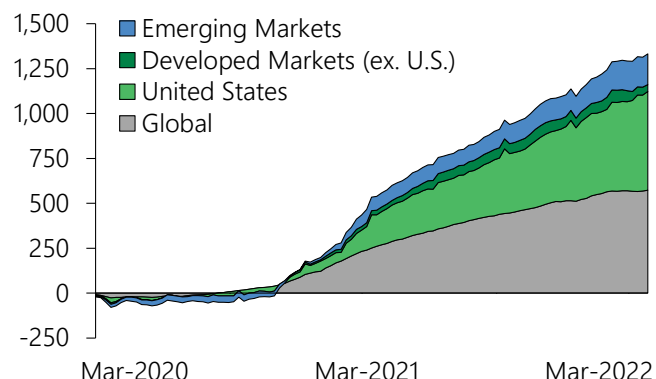
For the most part, equities held up remarkably well in the first quarter of 2022, considering the recent inflation upsurge, the Federal Reserve's increasingly aggressive tightening path, the far-reaching impacts of the Russia-Ukraine conflict, and the Covid-provoked lockdowns in China. The S&P 500 Index closed the first quarter down -4.6 percent on a total return basis, though it declined as much as -12.3 percent year to date in early March. The same is true for the MSCI Europe Index, which declined -5.2 percent year to date on a local currency basis but dipped as much as -14.2 percent in early March. Led by the strong performance of commodity exporters, the MSCI Emerging Markets Index fell -6.1 percent (down -14.6 at its lowest point) in the first quarter. As the Federal Reserve tightens, investors cannot count on the "Fed Put" (i.e., central bank intervention in periods of financial market stress). However, the T.I.N.A. (i.e., there is no alternative) effect and the fear of missing out continue to support stocks. Almost \$200 billion flowed into equity mutual funds and ETFs globally in the first quarter, bringing the cumulative sum to \$1.4 trillion over the last 24 months (Exhibit 11). We suspect investors may shift some funds back to bonds when the volatile interest rate environment settles down. Meanwhile, the S&P 500's earnings yield of +5.0 percent compares very favorably to the 10-year U.S. Treasury yield of +2.4 percent. Rising dividends and share buybacks further add to the attractiveness of stocks. Still, we expect equity volatility to swing higher and investors to become increasingly selective, contributing to a better environment for active portfolio management.

Modest Stock Returns When Fed Tightens, but Balance Sheet Unwind a Major Risk

The Federal Reserve's hawkish policy shift has some notable implications for equities in terms of valuations, fund flows, investor sentiment, and sector/style relative performance. The S&P 500's forward price-to-earnings multiple has already contracted about 350 basis points due to rising 10-year U.S. Treasury yields, moderating excess liquidity growth, and slowing earnings growth. Still, the S&P 500's forward valuation multiple of about 20.0 times remains well above its historical mean of 15.7 times, leaving it susceptible to further contraction. The S&P 500 has posted modest gains during prior monetary tightening cycles, returning +2.9, +4.2, and +13.0 percent, on average, for the 6-, 12-, and 24-month periods after the first rate hike (Exhibit 12). However, the unwinding of the Fed's \$9 trillion balance sheet is a considerable risk to equity valuations via lower liquidity. Stock markets have been a key beneficiary of quantitative easing. In fact, BofA Global Research estimates that about 50 percent of non-earnings driven changes in S&P 500 returns since 2010 are explained by the Fed's balance sheet adjustments. Although Fed asset sales and higher rates may draw liquidity out of stocks, the T.I.N.A.-effect may still provide a solid underlying bid for high-quality growth stocks. Moderating corporate earnings growth and contracting stock market valuation multiples imply an environment where strong growth becomes scarcer, and quality growth stocks outperform the overall market.

Exhibit 11: Cumulative Equity Fund Flows

Last Two Years, \$ Billions



Source: EPFR, 3/30/22

Exhibit 12: Stocks Returns vs Tightening Cycles

1st Rate Hike	S&P 500 Return Over Time Period (%)			
	-6M	+6M	+12M	+24M
Aug-80	6.04	5.92	6.85	-15.89
May-83	23.65	0.86	-8.64	13.74
Mar-88	-17.63	2.43	9.73	28.05
Feb-94	4.74	-2.43	1.88	35.34
Jun-99	11.43	6.68	5.97	-10.80
Jun-04	2.81	6.37	4.43	11.34
Dec-15	-1.11	0.24	8.92	29.07
Avg.	4.28	2.87	4.16	12.98

Source: FactSet, 3/31/22



Global Equity Strategy

Equity portfolios remain well-diversified given the wide range of potential economic outcomes driven by enduring high inflation, an increasingly aggressive Federal Reserve, and the Russia-Ukraine conflict. Financial market fundamentals are inherently fluid in this dynamic backdrop, potentially requiring responsive portfolio adjustments if economic conditions change relative to our “base case.” The essential premise behind our sector emphasis is simple: earnings must drive stock prices as higher interest rates and cycle concerns pressure valuations. Importantly, surging inflation alone will not jeopardize corporate earnings, although the Fed’s response will likely dampen economic growth. Several growth sectors, including technology and health care, face relatively modest cost pressures that better pricing and efficiency gains can overcome. As a result, we have raised portfolio allocation to these sectors opportunistically during the recent market correction. The technology sector, in particular, has been under significant pressure as investors scrutinize valuations under a backdrop of higher interest rates. However, the sell-off has been indiscriminate, in our view. Many technology stocks, especially within the software and e-commerce sectors, previously traded at excessive valuations and warranted a correction as discounted cash flow models factor in higher interest rates. Still, we believe opportunities have emerged in semiconductors, tech services, and even select “FAANG” stocks, as valuations are no longer at significant premiums to market averages.

While we believe traditional growth stocks will fare relatively well as the economy slows, there are also opportunities for cyclical growth in select areas. Financial stocks, for example, will benefit from increasing interest rates and stable credit conditions, with dividends and buybacks adding to the sector’s appeal. Industrial firms also continue to deliver solid earnings, driven by a broad-based acceleration in spending in commercial construction, infrastructure, automation, and “electrification” within automotive and renewable energy markets. Finally, we have added to positions in both energy and defense, as the Russia-Ukraine conflict will have a lasting impact on sector fundamentals. Conversely, consumer cyclicals, particularly retailers, struggle with increasing labor costs and slowing demand as consumers shift spending to services from goods. Furthermore, while maintaining some defensive appeal, consumer staples are generally unattractive as currency pressures, a slowdown in Europe, and surging raw materials costs will likely lead to near-term earnings shortfalls. As a result, we have pared back consumer holdings.

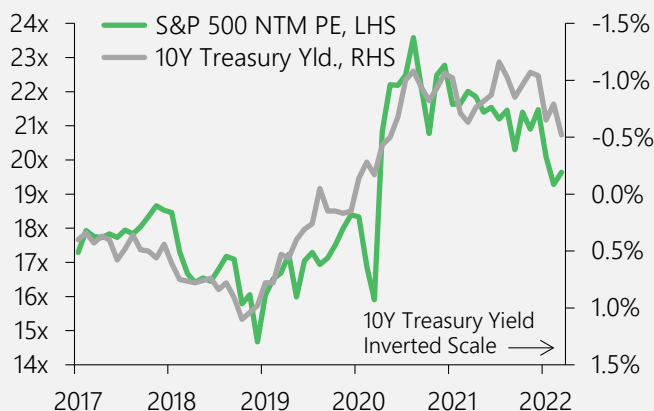
Within international portfolios, we remain overweight equities in South Korea, Singapore, and India because of their strong economic growth and prudent monetary policy. We project Asia ex-Japan will experience above-average economic growth in 2022, led by China and India, and like EM equities due to their solid earnings growth potential and attractive valuations. Thus, we maintain a balanced portfolio consisting of cyclical and traditional growth stocks. Holdings include economic growth beneficiaries (e.g., financials, e-commerce, and gaming), re-opening plays, and companies exposed to secular technology and renewable energy themes. Moreover, we own material stocks that have exposure to iron ore, copper, and aluminum, all of which will benefit from the secular transition to renewable energy sources.

In mid-March, offshore Chinese equities sold off amid a perfect storm of a widespread Covid outbreak, ADR delisting risks, and concerns about possible secondary sanctions on China. However, Chinese stocks rebounded after a meeting hosted by Vice Premier Liu He, at which he addressed investor concerns about macro policy/regulations and reiterated policymakers’ accommodative stance. We see attractive investment opportunities in Chinese equities in the mid to long term, given compelling valuations and favorable policies. Still, stocks may remain volatile in the near term due to the still-negative EPS revisions, ongoing Covid-19 resurgence, evolving Russia-Ukraine conflict, and enduring China-U.S. tensions. We are sticking with our positions in deeply discounted, quality internet stocks and are focused on firms with solid EPS growth and exposure to favorable secular trends. We currently prefer exposure to reopening trades, mass consumption, capital market reform, and renewables. Moreover, we have skewed investments toward the world-class technology and services companies China needs to become a superpower. On the other hand, we are avoiding investments in state-owned enterprises.

Global Equities: Other Notable Data Points

PE Multiples Contracting with Rising Yields

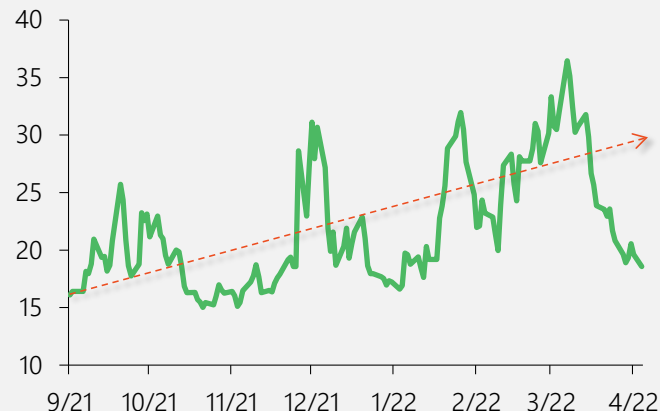
S&P 500 PE Ratio vs Real U.S. Treasury Yield



Source: FactSet, U.S. Federal Reserve, 3/31/22

Volatility Will Likely Accelerate Going Forward

CBOE Volatility Index



FactSet, 4/4/22

Modest Equity Gains in Soft-Landing Scenario

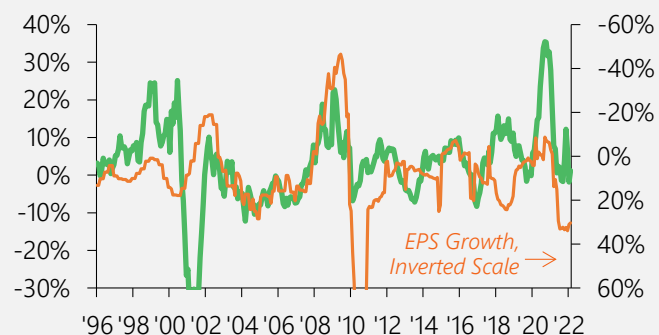
Average 12-month S&P 500 return since 1975

		Real 10-year Treasury yield			
		Falling	Stable	Rising	All
US real GDP growth	Accelerating	19 %	16 %	19 %	18 %
	Stable	14	15	12	13
	Decelerating but growing	13	9	8	11
	Decelerating & contracting	(3)	(20)	(19)	(11)
	All	12	11	11	11

Source: Goldman Sachs, 3/7/22

Growth Outperforms Value When EPS Slows

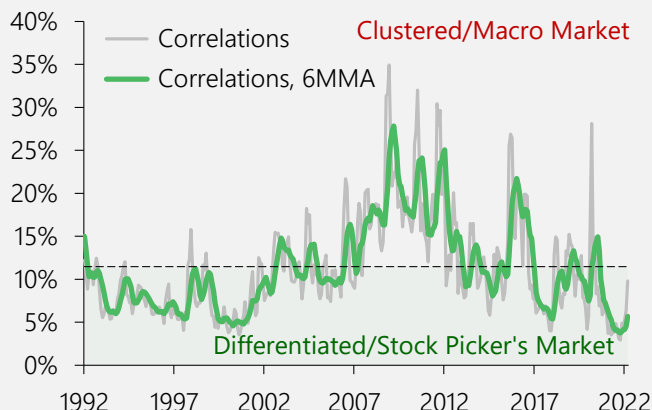
S&P 500 Growth Index Relative to S&P 500 Value Index vs S&P 500 Forward EPS Growth



Source: FactSet, 3/31/22

Stock Correlations Below Historical Average

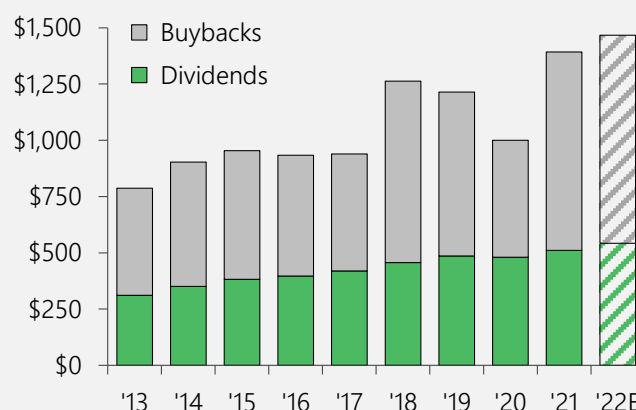
Global Stock-to-Stock Correlations



Source: BofA Research, 4/6/22

Share Buybacks & Dividends Back on the Rise

S&P 500 Share Buybacks and Dividends (\$ Billions)



Source: S&P Global, Goldman Sachs, 3/31/22

NOTICE: This analysis contains the collective opinions of our analysts and portfolio managers and is provided for informational purposes only. While the information is accurate at the time of writing, such information is subject to change at any time without notice, and therefore, so may the investment decisions of Sit Investment Associates.