

Outlook Memorandum

APRIL 2022

S&P 500:
4530
 (As of March 31, 2022)

Inflation & Interest Rates

Russia's invasion of Ukraine thrust the risk of a globalized conflict and major economic shock into investors' calculus during the early stages of the war, with heightened pessimism dragging asset values lower. As the boundaries of the global reaction came into focus and the fear of direct foreign intervention (or participation) eased, the pressure on stocks lifted. For the quarter the S&P 500 finished down only 4.6% after initially falling as much as 12.5%. The energy and mining sectors each gained over 35% in response to the spreading isolation of the Russian economy, which is a major exporter of oil, natural gas, palladium, and other raw materials. Technology and high-growth stocks were generally weak, with the NASDAQ declining 8.9% (and down almost 20% at its low) as interest rates rose sharply in response to the sudden new sources of inflation pressure and increasingly hawkish rhetoric by central banks. Bonds turned in one of their worst quarters in recent history as the threat of higher interest rates and inflation chased the 10-year treasury yield higher, hitting a recent 2.8% from 1.5% at the start of the year. European stocks, emerging markets, Japan, and China all declined more than 7%.

While markets have quickly recovered from the initial invasion selloff, investors are still assessing the economic and market repercussions triggered by Russia's decision. Prior to the war investors were already anxious over rising inflation levels amidst strong demand, a healthy job market, and steps by the Fed to reestablish its inflation-fighting credibility. Russia's escalating isolation and the destruction in Ukraine are sending tremors through commodity markets, causing an immediate jump in prices, reducing forecast visibility, and raising the specter of yet higher prices and stretching timelines until favorable

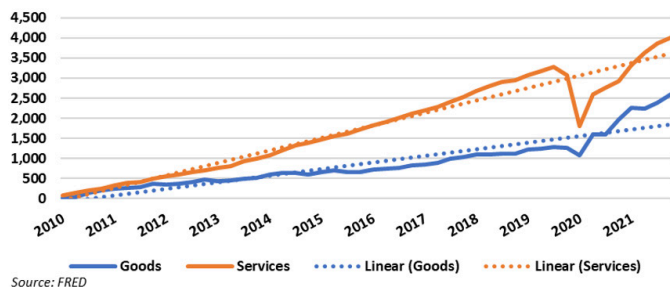
inflation trends reemerge. China's renewed lockdowns are also exacerbating short-term uncertainty by causing renewed logistical challenges across supply chains. At the same time, higher food and energy costs add headwinds to consumer spending, which puts the Fed in the position of tightening policy into an environment characterized by forces that are lifting inflation and restricting economic activity. For investors and markets, the key uncertainty revolves around the degree to which expectations for rising inflation and supply constraints are becoming more entrenched versus the sensitivity that asset prices and spending may still exhibit to higher interest rates amidst faint signals that some of the sources of the demand/supply imbalance are already easing.

The economy should have enough momentum to withstand higher food and energy costs and policymakers' initial steps toward normalization. Household finances remain healthy, and spending is buttressed by residual pandemic savings, a strong pace of hiring, and rising wages that are beckoning people into the labor force. Transient factors contributing to the current inflation surge should dissipate as the year progresses, allowing policymakers and investors a clear view into the degree to which inflation reflects structural constraints on supply growth (such as a worker shortage) that simultaneously fuel higher wages and consumer spending. With this in mind, we expect that markets are likely to continue to oscillate around current levels while investors seek clarity on the durability of recent inflation and await the emergence of a trend pointing toward more favorable inflation levels in the future (and, thus, confidence in how restrictive and how fast monetary policy may need to be tightened). Importantly, financial conditions are on

track to tighten sharply, and as monetary tightening gets underway in earnest small sequential improvements on the inflation front will go a long way to resolving investors' general uncertainty. This, in turn, should support equity markets and allow investors to focus once again on innovation, investment, and productivity as the drivers of return and value.

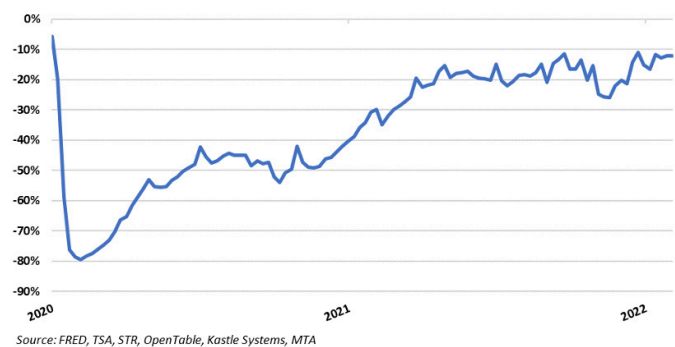
The reopening is still fueling economic activity. Service industry jobs have recovered rapidly as fading restrictions release pent up demand for travel and vacations. Indeed, the economy is adding new jobs at a pace of about 500,000+ per month, extending the robust hiring from last year with nary a blip during the recent COVID wave. The roughly six-week spike in Omicron infections caused widely reported business disruptions but receded quickly and wound up causing only a small, short-term impact on spending. Weekly unemployment claims have also moved lower, and now sit below 2019 levels – consistent with higher wages over the past year and surveys that indicate job openings remain high relative to available workers. At the same time, recent real wage gains appear to be moderating from their pace back in the fall – potentially an indication that the urgency to hire additional workers is easing and/or that companies are shifting focus toward filling positions that require less training and experience. In a hint that the moderation in wage growth may continue, household surveys reveal the labor force participation rate is climbing back toward 2019 levels (people reentering the workforce creates incremental competition for new jobs). And while prior fiscal stimulus that has been powering household spending will eventually wane, state and local fiscal coffers remain full and are starting to be mobilized.

PERSONAL CONSUMPTION EXPENDITURES: GOODS VS SERVICES GROWTH SINCE 2010



Pent-up demand no more – the swing in consumer spending back toward services is a big step toward “normalization.” Fiscal stimulus over the past two years assured that consumer spending roared back to life, but it was heavily restricted toward the purchase of goods due to social distancing, mask mandates, and the travel-related burdens. The stay-at-home dynamic also pulled forward spending from future periods, which added to goods inflation as manufacturers struggled to resume operations (let alone expand to meet magnified demand). Consumer spending is now swinging back toward services, fueled this time by pent-up demand for activities that were previously restricted. The pace of hotel, airline, cruise, and other travel/vacation related bookings have all accelerated amidst strong pricing metrics. Hotel room rates, for example, are above 2019 levels and TSA throughput (domestic terminals) is inching above 90% of pre-pandemic levels (most of the remaining gap reflects a delay in a return to full business travel). Recent consumer surveys may be detecting some hesitation around price trends, however, which may suggest some moderation in demand (price sensitivity) emerging after the impact of pent-up demand wanes.

ACAP “REOPENING” INDEX



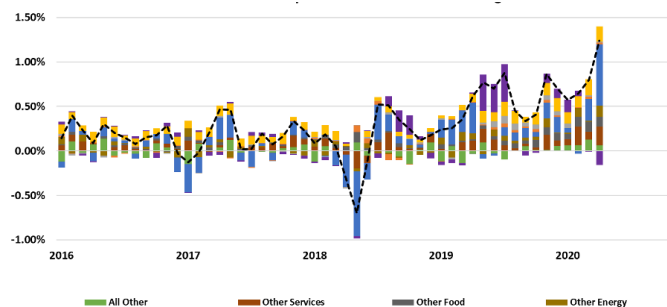
Importantly, the swing toward services is creating a secondary surge of hiring in service industries such as travel, leisure, restaurants, and hospitality. The hiring impact on wages has been modest thus far, but bears watching for signs that the scramble to resume full hotel/travel industry operations does not trigger wage gains due to a chronic labor shortage (as opposed to just an urgency to hire now). This swing away from spending on goods portends more favorable inflation for goods in the months ahead. The pace of retail sales is already moderating against a backdrop of rising merchandise inventories and easing capacity constraints in the trucking/freight market.

The fallout from the Russian invasion of Ukraine is a mild brake on consumer spending. Thus far sanctions have not cut off Russian energy and raw material exports, but pressure is mounting on countries to adopt strategies that will reduce their reliance on Russia. Markets, however, recognize that most of those exports will be redirected toward China and India – essentially prompting a rerouting of global trade rather than a durable reduction in supply. In contrast, a near complete loss of Ukrainian wheat exports (in addition to sharp reductions in neon, ores, and refined products) remains possible. While fully rerouting trade could take more than a year as contracts are adjusted and processing facilities retooled, the impact on overall commodity prices has largely been muted thus far outside of an initial short squeeze that drove oil and nickel prices skyrocketing. Oil prices have also received a temporary reprieve from new lockdowns in China (China’s daily oil consumption has dropped an estimated 1-2 million barrels per day recently), while the release of about one million barrels per day from strategic petroleum reserves has restored calmness and production incentives to energy markets.

The domestic impact of higher energy and food prices should be manageable. Every \$10 per barrel that oil prices average more than what otherwise would have been the case, the daily cost across the U.S. economy is about \$100 million. That excludes, however, secondary benefits that accrue as domestic energy companies boost hiring and investment activity. On an annual basis, each \$10 per barrel increase amounts to a direct expense for the economy of about \$35 billion. If oil prices climb back up to \$120 per barrel (and stabilize at that level) the net drag on domestic activity is less than 0.1% of GDP. Other prices and supplies are also being impacted, including food (which is up significantly over the past month), metals, and ores – but the combined impacts, including the expansion of domestic businesses, amounts to a drag of about 0.2% of GDP – which is secondary to the pace and magnitude of forthcoming Fed interest rate hikes. Importantly, energy, food, and raw material costs eat up a proportionally smaller share of household income and business operating costs than is typically the case overseas (particularly emerging markets) – a factor that suggests higher price sensitivity overseas may help to soften the price impacts experienced domestically (that is, declines in foreign consumption as prices rise may allow the U.S. to import additional raw materials).

The transient versus durable drivers behind supply-demand imbalances are important. Prices, or specifically inflation, resolve differences between demand and supply. The challenge is estimating the degree to which transient or more permanent forces are acting on either supply or demand (or both), resulting in a change in the overall price level. This is particularly important given the Fed’s intention to rapidly withdraw excess stimulus by raising short-term interest rates and shrinking its balance sheet. Simply put, there are multiple, dynamic forces behind recent inflation. These forces includes prior fiscal stimulus, the delay in reestablishing efficient supply chains, potential double ordering, delays in workers returning to the workforce (for whatever reason), the inability for manufacturing to expand at the same pace that stimulus expanded demand (exacerbated by the consumption swing from services to goods, and now back to services), the expectation of rising prices causing an acceleration in demand, and the degree that rising wages are powering demand growth in a global economy that is facing a chronic labor shortage. Confidently estimating the contribution of each of these forces to current inflation is critical to forecast whether inflation pressures are poised to level off and recede naturally, versus how much monetary tightening will be required for the Fed to achieve its 2% target – and despite widespread coverage in the financial media, the convulsions created by the pandemic, the ensuing policy responses, and now renewed lockdowns in China and the fallout from the Russia/Ukraine war, nobody has enough data (nor is there an historical precedent) to confidently estimate how inflation, rates, and the economy will evolve

U.S. CPI MOM: TOP CONTRIBUTORS TO PERCENT CHANGE



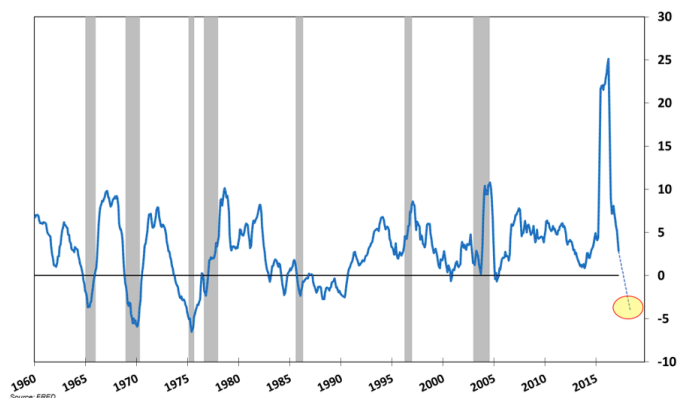
While market forecasters are fretting that the Fed will need to move its benchmark rate above the rate of inflation to get prices back under control (implying a positive real rate for the first time in a generation), in the 10 years leading up to the pandemic real short-term lending rates of negative 1.2% did not result in inflation or particularly high economic growth. Many factors, including aggregate debt levels, demographic trends, and global trade/economic policies contributed to the muted inflation experience. Early worker retirements and the slow reorientation of supply chains represent a shift in manufacturing toward higher costs and may result in the Fed needing to maintain a less stimulative posture in the future. The need to undertake tightening to that degree would significantly increase the odds of precipitating a recession. Particularly given that lower income households are highly sensitive to softer asset values as interest rates rise.

Fed guidance lays out a rapid contraction in liquidity over the next twelve to eighteen months. Recent real M2 money growth has already slowed to 3% on a year over year basis – a rapid return to “normal” from the pandemic high of over 25%. The interplay of nominal M2 growth and nominal interest rates versus inflation always involves variability, uncertainty, and time lags which makes forecasting real M2 growth and real interest rates challenging. That said, policy contributes to sustained inflation when nominal money supply growth exceeds the inflation rate, which translates essentially into an excess of cash chasing a relatively fixed quantity of goods and services. If, however, inflation is higher than nominal money supply growth, there is comparatively less money chasing the higher prices – which results in an excess of goods and services, and eventually lower prices.

Many variables factor into this dynamic, including prior money supply growth (such as the more than 25% growth in 2020), current Fed policy and forward guidance, the willingness of banks to extend new loans, pent-up demand/savings, and production capacity (including disruptions or difficulty fully reopening operations). If we incorporate the Fed’s expectation to shrink its balance sheet by about \$100 billion per month, or \$1.2 trillion per year, quantitative tightening will exert a roughly 5% annual drag on nominal M2 money supply starting in mid-2022. Net loan growth may offset roughly half of the Fed’s balance sheet tightening. But if inflation levels come in at just 2.5%, let alone the 4.5%-5.5% forecasts now circulating, then real M2 growth over the coming year may range from negative

5% to negative 7.5%. At the same time, markets are expecting the Fed’s short-term lending rate, which started the year anchored near zero, to approach 2.0% over the next year. Considering that inflation is hovering around 8%, the Fed is prospectively poised to raise its real short-term lending rate from negative 8% to a range of negative 2% to 0% over the next year – this implies a massive 600-800bps of tightening in financial conditions.

REAL M-2 Y/Y GROWTH: % CHANGE



Currently, the range of inflation and growth forecasts are widening which is muddying the traditional playbooks of both policymakers and investors. Policymakers are increasingly worried inflation expectations may become unanchored, forcing them to pivot policy quicker than they are used to and have forecasted to markets. Investors are struggling to determine whether and at what level the Fed will support markets with liquidity going forward in an environment where inflation remains above trend. Until investors can discern inflation is softening consistently, expect markets to remain volatile.

In terms of asset allocation, we continue to prefer equities over bonds given the still considerable gap long-term equities are expected to return versus bonds. In fixed income, our focus remains on shorter duration, high-quality bonds which given the flattening of the yield curve continue to be relatively attractive versus longer-term bonds. In equities, while market corrections are never desired, we view the recent pullback as healthy given the incredible rebound from the 2020 lows. While mindful of higher valuations in more speculative parts of the market, the sell-off provides an opportunity to add to attractive ideas at lower valuations particularly in sectors such as semiconductors, financials, and consumer cyclicals, given historical valuations and future growth prospects.



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