

FIRST QUARTER 2022

THE WAR TO END ALL WARS

Such was the assessment originally applied to “The Great War” that ran from 1914 to 1918 – a war so violent and so bloody the world was convinced nothing so horrific could or would ever happen again. The world was wrong. Two decades later the world was thrust into a second “great war” from 1939 to 1945. Today – this time seven decades later – the international community is, again, confronting a geopolitical crisis with possibly long-ranging ramifications. What will history have to say about this barbaric invasion? First and foremost, it will mourn for the Ukrainian people; they deserved none of this. But history should also identify several enduring geoeconomic trends that were either born out of, or accelerated by, this unnecessary conflict.

Private power. This is the first war wherein the private sector played a pivotal role in its outcome. Social media – a peace-time source of conflict – has been a war-time force for good, providing a direct window into the horrors of war thanks to the recording devices now in people’s pockets. Tech companies – from Microsoft to Starlink (a division of SpaceX) – have served in the war effort, either preventing or providing internet access depending on the circumstance. Other major companies – Coca-Cola, Disney, McDonald’s, Nike, etc. – showcased their unique source of economic power, pulling their influential brands out of Russia (in many cases, ahead of official sanctions).

Deglobalization. Populism – which can be sourced back to the financial crisis – represented the first sustained hit to globalism. The pandemic – and resulting supply chain

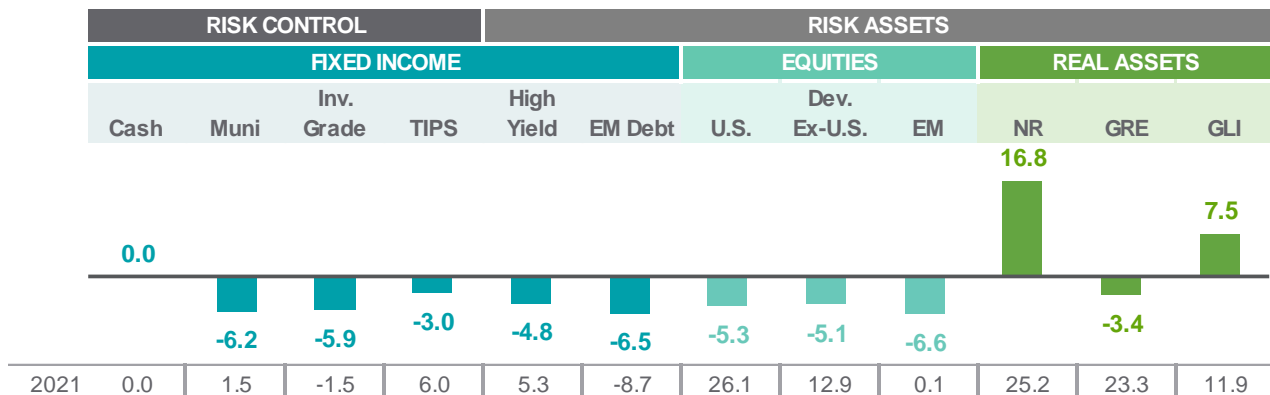
impairment – took the next whack. The war in Ukraine may be strike three. The current world order – installed at the end of World War II and fortified by the West’s Cold War victory – is under attack. The West-East wedge has never been bigger, and many countries are recognizing that global dependence (think energy) equals untenable vulnerability. This is not the first “peak global” episode. Global trade (as a % of activity) also rose and fell ahead of World War I – and took 60 years to regain pre-WWI levels.

Decentralization. While deglobalization hits the economy, the financial world braces for decentralization. And nothing is more central to global finance than the U.S. dollar – the world’s “reserve currency” since World War II. U.S. dollars represent ~90% of global financial transactions and ~60% of global central bank holdings. That incumbency can make it hard for the dollar to be displaced anytime soon, but risks do exist. Central banks eye cryptocurrency, while geopolitics may also be a disruptor. Example: The U.S. cut Russia’s access to \$0.6 trillion it holds at the Federal Reserve¹ – a tactical win but strategic misstep? Russia’s heinous actions justified the response – but other central banks must now wonder if this could happen to them.

Opportunity amid chaos? This war is unlikely to be the last – and its impact will echo for years. Uncertainty often causes fixation on the negative, but opportunities also arise. Much investment may be needed in coming years (supply chain reorientation as one example). As we wait, a well-diversified portfolio can protect against incoming fire.

FIRST QUARTER 2022 TOTAL RETURNS (%)

Financial markets are weathering the geopolitical storm relatively well; natural resources have been the big beneficiary.



Source: Northern Trust Asset Management, Bloomberg. NR: Natural Resources; GRE: Global Real Estate; GLI: Global Listed Infrastructure. ¹Sanctions on Russia’s Central Bank Deal Direct Blow to Country’s Financial Strength 2/2022

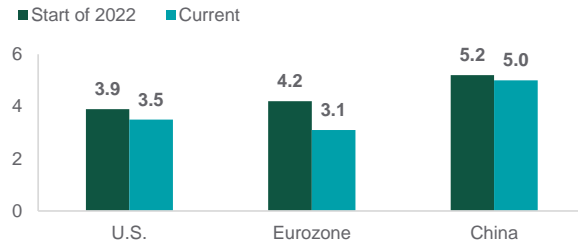
KEY DEVELOPMENTS

War Implications: Growth

The advent of war on the European continent has negatively impacted 2022 regional economic growth expectations to varying degrees. Europe is most directly impacted (other than Russia). China – already dealing with another COVID-19 breakout (due to a zero-COVID policy and less effective vaccines) – is at risk of second-order effects should it provide support to Russia. The U.S. is less impacted – both due to its much smaller reliance on foreign natural resources and its greater economic momentum entering the war.

SELECT REGIONAL ECONOMIC GROWTH REVISIONS

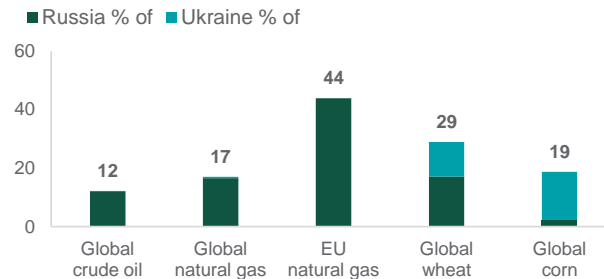
EXPECTED 2022 REAL GDP GROWTH (Y/Y %)



War Implications: Inflation

Any expectations (or hopes) that inflation was still transitory took a big hit with Russia’s invasion of Ukraine. Beyond the notable – and now at risk – amount of oil and natural gas coming from Russia, the prospect of reduced global crop production this growing season is a real risk. Russia/Ukraine planting of wheat (29% of global harvest) may be disrupted and farmers are dealing with shortages in global fertilizer supply (of which Russia produces ~8%). Ukraine and Russia are also major producers of several industrial metals.

RUSSIA-UKRAINE GLOBAL SHARE OF...

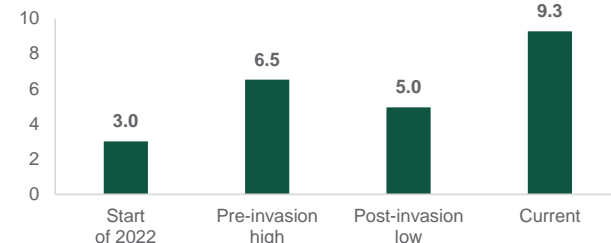


War Implications: Monetary Policy

The Federal Reserve is walking a tightrope, trying to balance the war’s inflationary impacts with the war’s effect on investor sentiment and market functioning. As seen in the chart, full-year 2022 rate hike expectations have whipped around a bit. But, as we end the quarter, the market seems more sympathetic to the inflation argument – currently expecting a total of nine-plus rate hikes over the course of 2022. With one rate hike in place and only six more meetings this year, markets anticipate a couple of 0.5% hikes will be in the mix.

EXPECTED 2022 TOTAL RATE HIKES AT KEY DATES

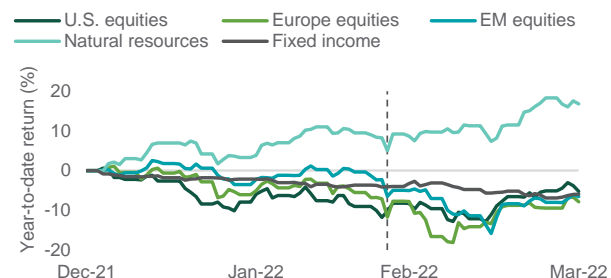
PROJECTED 2022 FED RATE HIKES



War Implications: Financial Markets

While we cover the implications of key developments on the next page, at a high level, we note financial markets often overreact in the near term and underreact in the intermediate-to-longer term. We saw that play out this quarter. The chart shows the initial post-war drop in equity markets (notably in Europe) before recovering much of that heading into Q2. Conversely, natural resources extended pre-war gains before consolidating. But the geopolitical ramifications are likely not over – and investors should be prepared for more volatility.

MARKET ACTION PRE- AND POST-RUSSIA INVASION



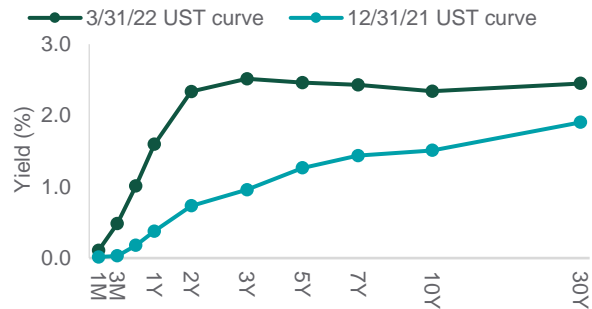
Source: Northern Trust Asset Management, Bloomberg, BP Statistical Review, Eurostat, EIA, IEA. Data as of 3/31/2022.

MARKET REVIEW

Interest Rates

The Russia-Ukraine war accelerated the upward trend in Treasury yields as its inflationary impacts aroused a more hawkish Fed. The Fed executed a 25 bp hike and signaled a will to restore price stability at the expense of economic growth if needed. Short-end yields soared on higher rate hike expectations. Long-end yields rose, though to a lesser extent due to lower economic growth prospects and quantitative easing impacts. Real rates remain low, but parts of the curve are inverted. Whether the Fed can execute a soft landing remains to be seen.

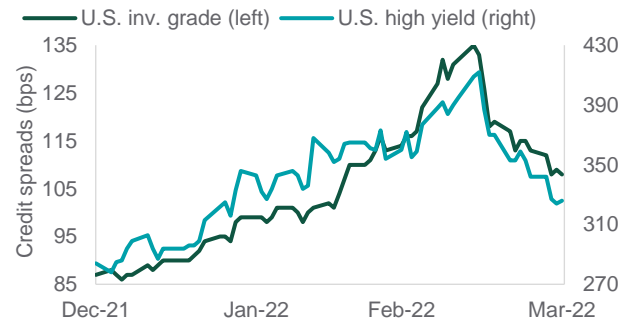
YIELD CURVE



Credit Markets

Investment grade (IG) and high yield (HY) credit spreads widened 21 and 42 bps, respectively. Wider spreads were mainly a result of higher interest rates, elevated financial market volatility and broader risk-off sentiment – all three of which intensified at the onset of Russian-Ukrainian conflict. Spreads came in as worst-case war outcomes became less likely. Overall, HY bonds generally fared better than IG bonds given lower interest rate exposure, a solid income yield and a higher energy sector weight (~13% versus ~8% for IG).

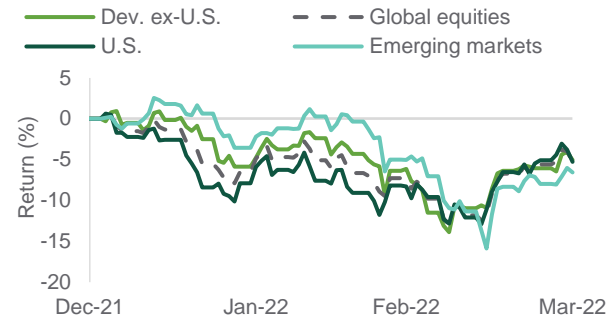
CREDIT SPREADS



Equities

Corporate earnings held up well, but lower valuations led to a 5.3% decline for global equities. Equity markets rotated toward value in response to higher inflation, rising interest rates and more hawkish central bank behavior. Ergo, Europe equities (more value-oriented) bested U.S. equities (more growth-oriented) despite temporary underperformance at the onset of the Russia-Ukraine war. Developed ex-U.S. equities (-5.1%) finished slightly ahead of U.S. equities (-5.3%), while emerging market equities lagged both regions (-6.6%).

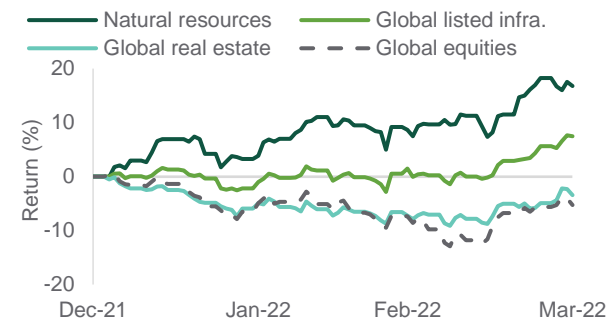
REGIONAL EQUITY INDICES



Real Assets

Real assets earned their stripes during the quarter. With a 16.8% gain, natural resources (NR) handily beat the 5.3% loss from global equities. The commodity supply disruption caused by Russia's invasion of Ukraine bolstered NR's case as a geopolitical and inflation hedge. Listed infrastructure (+7.5%) also materially outperformed global equities due to its lesser market (equity) exposure, notable energy sector tilt and inflation protection properties. Global real estate (-3.4%) tracked global equities for the most part but ended 1.9% ahead.

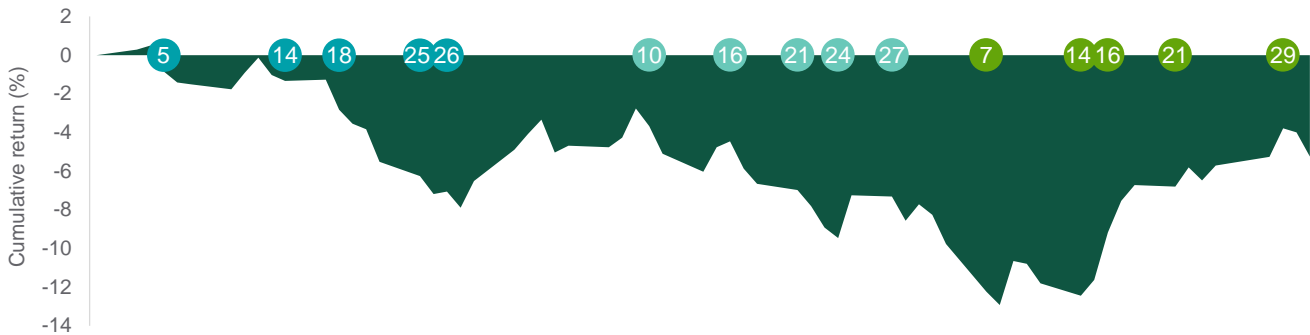
REAL ASSET INDICES



Source: Northern Trust Asset Management, Bloomberg. Bp(s) = basis point(s). Returns in U.S. dollar terms. UST = U.S. Treasury.

MARKET EVENTS

■ 1Q 2022 global equity total return: -5.3%



JANUARY	FEBRUARY	MARCH
<p>5 December Fed meeting minutes tilt hawkish, pointing to rate hikes and quantitative tightening on the horizon.</p>	<p>10 U.S. Consumer Price Index (7.5% y/y) is higher than expected and shows continued price pressures across goods.</p>	<p>7 Equities decline and oil reaches 2008 highs as the West considers Russian energy sanctions (U.S. later bans all Russian energy imports).</p>
<p>14 Fourth quarter earnings season unofficially kicks off; U.S. earnings proceed to finish up 31% year-over-year (y/y), but the results do not lead to broad upward revisions in earnings estimates.</p>	<p>16 Fed meeting minutes confirm it will likely raise its policy rate in March and that participants expect the pace of rate hikes to be faster than in 2015.</p>	<p>14 China equities decline on COVID, geopolitical and regulatory risks, but later bounce back after authorities pledge support for China's capital markets.</p>
<p>18 U.S. equities begin to waver on the back of materially higher interest rates year-to-date.</p>	<p>21 Russian President Putin recognizes independence of breakaway regions in eastern Ukraine and sends "peace-keeping" forces into the territories.</p>	<p>16 The Fed lifts rates 25 bps, signals six more hikes in 2022 and revises 2023 projection up to 2.8% from 1.6%.</p>
<p>25 Economic data shows Omicron is weighing on economic activity, but health data increasingly supports that its severity is not as bad as once feared.</p>	<p>24 Russia launches a full-scale invasion of Ukraine, including an attack on Kyiv in what President Putin calls a "special military operation."</p>	<p>21 Chair Powell triggers bond selloff after signaling a readiness to hike rates in 50 bp increments and restrict growth if needed to restore price stability.</p>
<p>26 Fed signals it will soon raise its policy rate and confirms asset purchases will end in March; hawkish Powell press conference pushes up Treasury yields.</p>	<p>27 Western nations announce major sanctions on Russia, sending the Russian ruble down close to 30%.</p>	<p>29 Russia says it will reduce military activity and focus on the liberation of the Donbas region; separately, 2- and 10-year Treasury yields invert intraday.</p>

Indexes used: Bloomberg (BBG) 1-3 Month UST (Cash); BBG Municipal (Muni); BBG Aggregate (Inv. Grade); BBG TIPS (TIPS); BBG High Yield 2% Capped (High Yield); JP Morgan GBI-EM Global Diversified (Em. Markets Fixed Income); MSCI U.S. Equities IMI (U.S. Equities); MSCI World ex-U.S. IMI (Dev. ex-U.S. Equities); MSCI Emerging Market Equities IMI (Em. Markets Equities); S&P Global Natural Resources (Natural Resources); MSCI ACWI IMI Core Real Estate (Global Real Estate); S&P Global Infrastructure (Global Listed Infrastructure).

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