



The lifeboat economy

Implications of a fracturing world order

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J.P.Morgan
ASSET MANAGEMENT



Along with imposing a terrible human toll, the Russia-Ukraine war is also reversing a powerful trend many of us have taken for granted: globalization.

I'm pleased to introduce the latest publication from our Strategic Investment Advisory Group, **The lifeboat economy: Implications of a fracturing world order**—which tackles the pointed issue of large nations' pursuit of self-sufficiency and self-protection, and the slow, historic demise of a trend that has marked our era.

Our most seasoned CIOs, portfolio managers and strategists spanning every asset class, led by Michael Cembalest, Chairman of Market and Investment Strategy, delve into the deep shocks the war has created, from spiking food and energy prices to the slow fraying of the integrated global economy.

The retreat from globalization is certainly concerning, yet some change is likely for the better. Our experts identify potential growth opportunities, and favorable outlooks for some traditional equities and global alternatives, as large economies “race to build their own energy, food, semiconductor, technology and infrastructure hubs,” perhaps with “Manhattan Project urgency.”

The team's latest work guides us through what investors need to know at a time of meaningful change, uncovering clear, actionable opportunities.

As always, we hope you will find our insights valuable.

George Gatch
CEO
J.P. Morgan Asset Management

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I come to bury globalization, not to praise it
-



A note from our Chair, Michael Cembalest

A few years ago, I wrote a piece on how geopolitics is rarely a market-moving event for investors. The equity market reactions to the Korean War; the Six Day War of 1967; the Soviet/Russian invasions of Czechoslovakia, Hungary and Afghanistan; the Falklands War; the 9/11 attack and the U.S. invasions of Iraq/Kuwait were all the same: a temporary wobble, then within 2-3 months, equity markets resumed their pre-war trend. The big exception I noted at the time: the Arab-Israeli War of 1973, which led to an energy crisis, wage and price controls, stagflation and a decade of very low returns for investors.

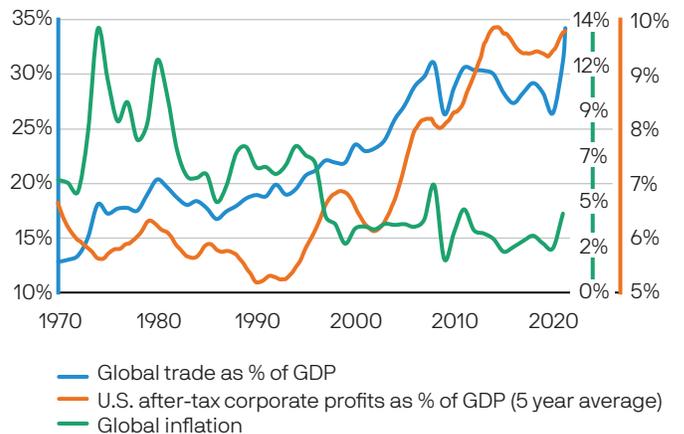
The Russian invasion of Ukraine shares some similarities with this 1973 episode given the shock to food and energy prices, economic growth, resource nationalism and political instability. The Russian invasion also has the potential to impede the most powerful investment trend of the last 50 years: the inexorable rise of globalization, which yielded enormous benefits for consumers (via lower prices) and shareholders (via higher profits).

The just-in-time globalized economy was not well prepared for an exogenous shock. Some risks seem obvious in retrospect, such as European energy dependence on Russia, while others do not (COVID-19, war in Ukraine). The response to these risks will be a

rewiring of trade, energy, tax and currency regimes in order to make each country and its partners more resilient. But this resilience will come at a price: higher inflation, lower productivity and lower valuations.

In our third SIAG paper, my colleagues and I examine the prospect of a “**lifeboat economy**” in which groups of countries retreat into their own spheres, abandoning the premise of a single global economy that optimizes utilization of labor, capital, energy and other resources. We start with the latest measures of globalization and signs of a fracturing world order. We follow with investment implications for public and private equities, liquidity and the U.S. dollar. To conclude, a eulogy for never-ending globalization, which ended up having dire consequences for U.S. manufacturing workers’ incomes, prosperity and health.

Globalization yielded benefits for shareholders and consumers



Source: IMF, World Bank, UNCTAD, Federal Reserve, J.P Morgan Asset Management, 1Q 2022.

Author

Michael Cembalest
Chairman of Market and Investment Strategy

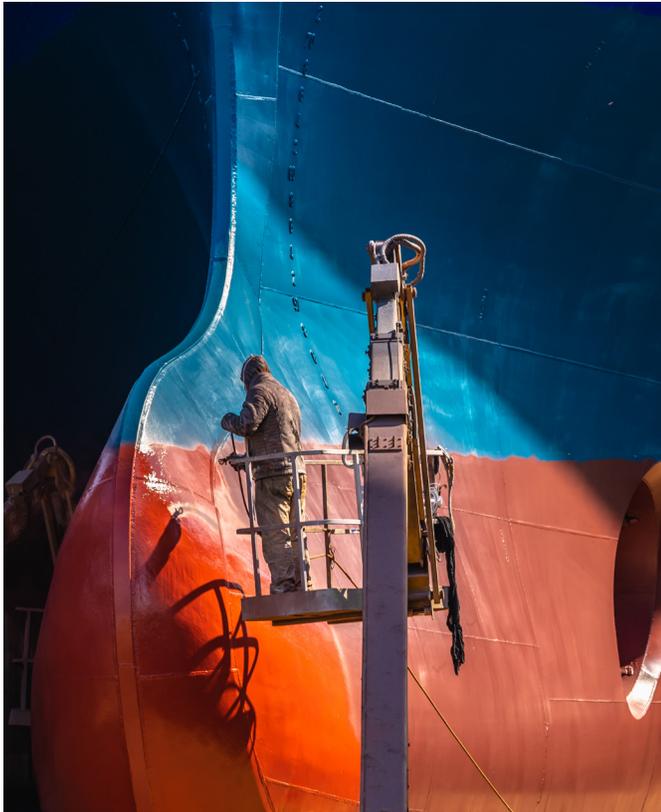
Executive Summary

Globalization, stalling and sputtering



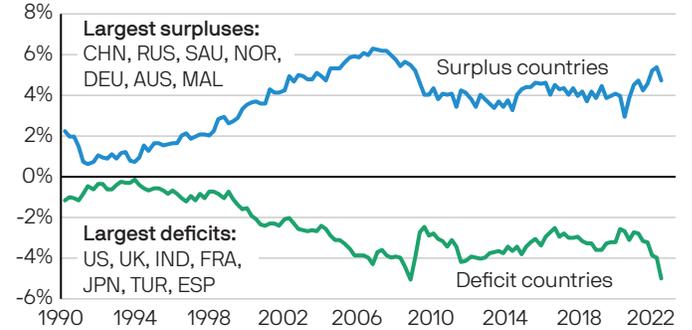
As shown upfront, global trade hit an all-time high in 2021, fueled by mega-stimulus and a post-lockdown rebound.

Furthermore, as illustrated in the first chart on the right, global trade imbalances were back to their highest levels on record. In other words, when 2022 began few countries were pursuing “import substitution” growth models in which countries seek to be self-sufficient in a wide variety of goods, irrespective of the cost. The other two major components of globalization, foreign direct investment (FDI) and investor portfolio flows, also rebounded in 2021 after a weak two years.



Back to the largest global imbalances on record

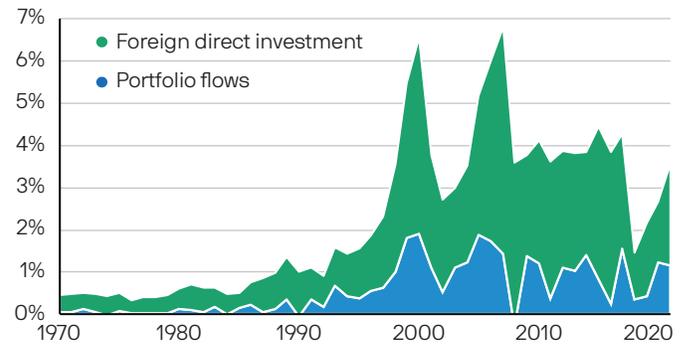
Percent, aggregate trade surplus or deficit / aggregate GDP



Source: National statistical institutes, J.P. Morgan Asset Management. 1Q 2022. Includes top 50 countries by GDP.

A rebound in outbound public and private investor flows

% of world GDP



Source: IMF, World Bank, UNCTAD, J.P. Morgan Asset Management. 2021.



For all the talk about U.S. “reshoring,” it’s a slow process. The first chart on the right shows how the share of goods *consumed* in the U.S. that were also *produced* in the U.S. continues to fall. Surveys of CEOs’ reshoring intentions are interesting but do not measure the timing, magnitude or scope of what they’re actually doing. According to the Reshoring Initiative, just 2.5% of all manufacturing jobs were reshored in 2021; this is a modest rebound after the loss of 3 to 4 million U.S. manufacturing jobs since China joined the World Trade Organization in 2001.

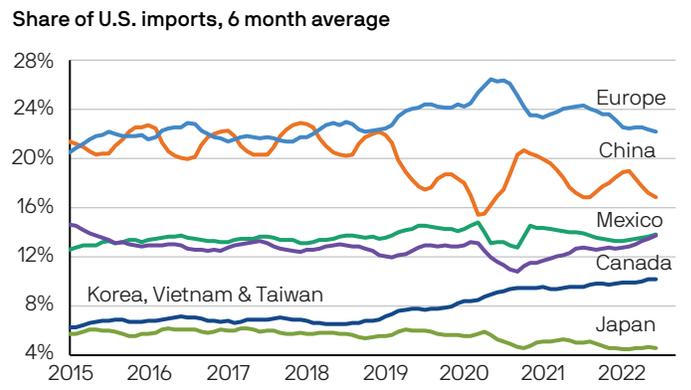
As things stand right now the U.S. is still very import dependent, running almost the largest trade deficit on record in spite of its regained energy independence (the U.S. is now a small net energy exporter). The U.S. simply imports a little more from Korea, Taiwan, Vietnam, Mexico and Canada and less from China. And with respect to semiconductors specifically, even after all the Huawei-related legislation, in 2021 the U.S. still exported more semiconductors by value to China than in 2018 or 2019. In other words, parts of the globalized world order are still in place.

U.S. domestic production share of goods consumption



Source: Coalition for a Prosperous America. 2021.

Trade war impact on U.S. import counterparties



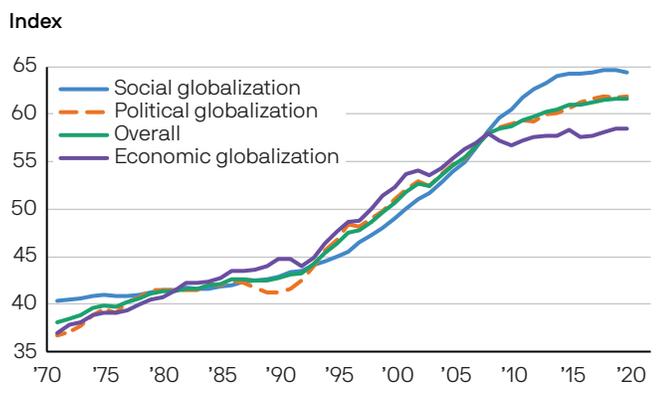
Source: U.S. Census Bureau. June 2022.

That said, a look below the surface shows a world order that is slowly fracturing.

Even before the Russian invasion of Ukraine, the world hit peak globalization around two or three years ago. The chart below uses three different measures of globalization and they all tell the same story. Peak globalization is behind us.

These trends were furthered by the Trump administration’s tariffs on China and China’s reciprocal tariffs. There was speculation that the Biden administration would reduce tariffs in an effort to bring down inflation but nothing has materialized yet. There does not appear to be much political capital in Washington, DC to enact pro-China policy, and this is unlikely to change irrespective of who controls Congress. For good measure, perceptions of the U.S. are no better in China, where 79% of Chinese adults see the U.S. as “an enemy” [Morning Consult Global, June 2022].

World globalization indices



Source: KOF Swiss Economic Institute. 2019.

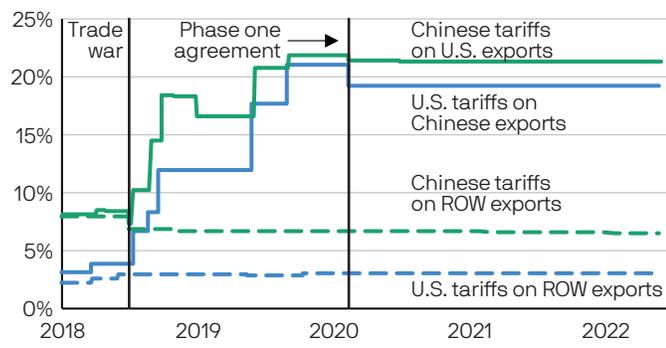
Social globalization: Voice and data traffic, tourism, student exchanges, migration, freedom of movement

Political globalization: New trade treaties, treaty partner diversity, peacekeeping missions, nongovernmental organization (NGO) activity

Economic globalization: International trade volumes, taxes and tariffs; capital account openness, investment restrictions and foreign investment.

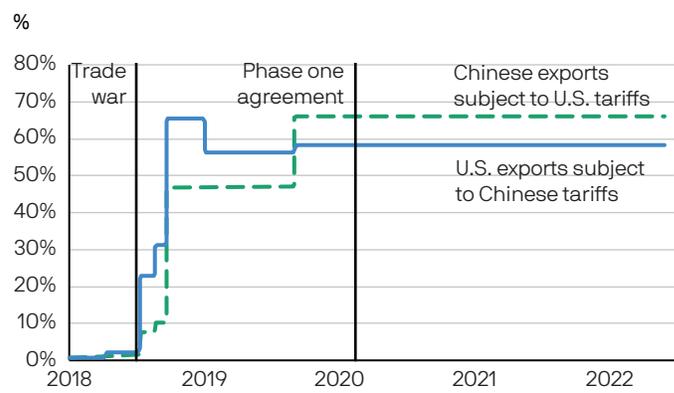
U.S.-China tariff rates toward each other and rest of world

%, trade-weighted tariff rate, constant 2017 trade levels by industry



Source: Peterson Institute for International Economics. June 2022.

U.S.-China trade subject to tariffs



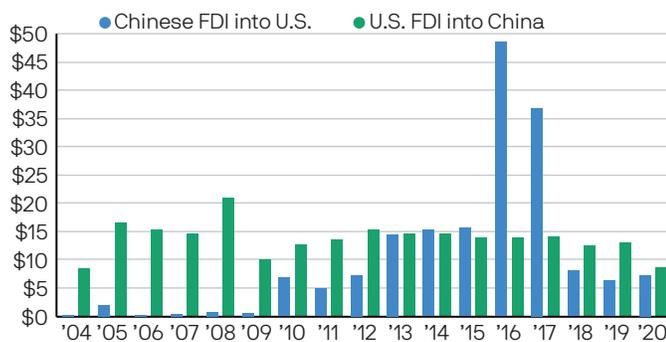
Source: Peterson Institute for International Economics. June 2022.

While tariffs are important to monitor, non-tariff barriers¹ can be just as impactful on global trade and investor flows.

These latter barriers are rising as well, as shown in the first chart on the right. One example of a non-tariff barrier: legislation allowing the U.S. to review foreign acquisitions of U.S. companies for national security reasons, and prohibit U.S. investment in Chinese companies linked to its military complex. The U.S. has even extended the purview of the Committee on Foreign Investment in the U.S. (CFIUS) to include Chinese acquisitions of companies in South Korea given potential national security implications.² **Two outcomes to note:** a large and possibly irreversible decline in bilateral U.S.-China foreign direct investment from peak levels, and a very gradual shift in global foreign direct investment from China to the U.S.

Some Western nations are following the U.S. lead on non-tariff barriers: In 2020, Germany passed a law allowing its government to block investment in industries such as artificial intelligence, semiconductors and quantum computing, all for national security reasons. And Japan, which has never been the most welcoming recipient of inbound investment, adopted a law requiring foreign investors to formally notify the government before acquiring 1% or more of a listed company (down from the previous 10% level).

Decline in bilateral foreign direct investment may be permanent, USD billions



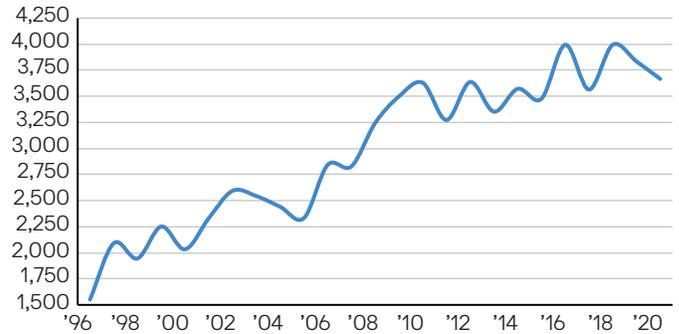
Source: Rhodium Group. 2020.

¹ Examples include anti-dumping rules, export subsidies and nationalized trading enterprises.

² For most of its existence, CFIUS only reviewed deals voluntarily submitted to it. A more assertive approach began under President Barack Obama and accelerated under President Trump. In 2018, Congress gave CFIUS the power to look at deals that could harm U.S. national security but hadn't been submitted for review.

Global non-tariff measures

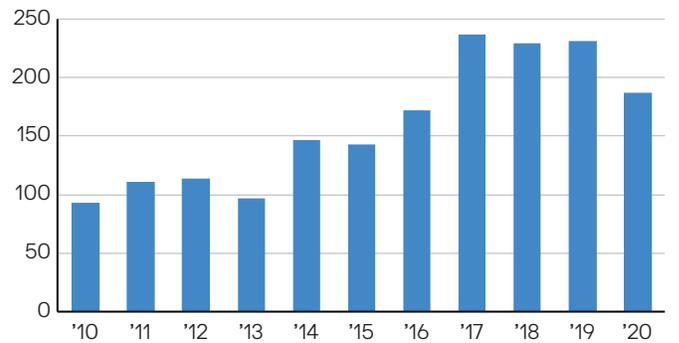
Number of measures



Source: WTO, J.P. Morgan Asset Management. 2020.

Deal notices received by CFIUS

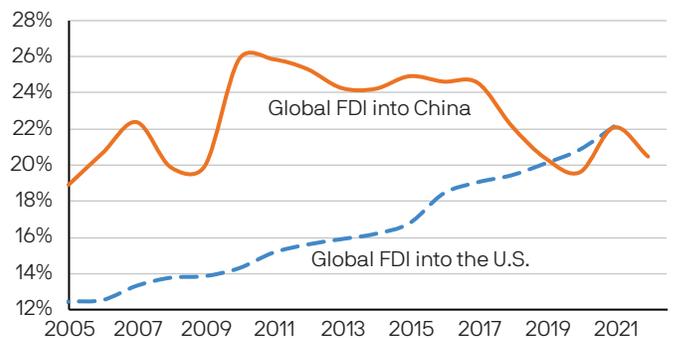
Number of notices



Source: Treasury Department. 2020.

Global foreign direct investment into China and the U.S.

% of respective GDP



Source: BEA, Ministry of Commerce, China National Bureau of Statistics, J.P. Morgan Asset Management. 2022.

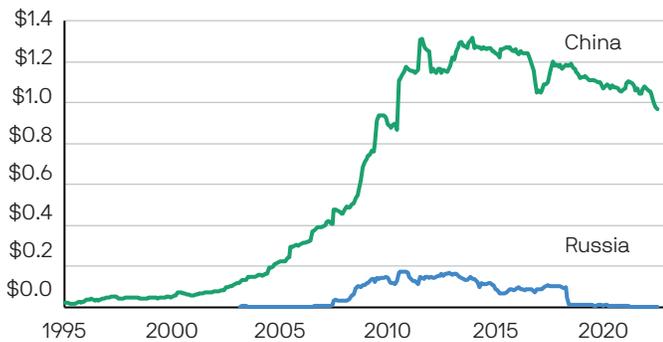
Other signs of fracturing

Since 2010, the stock of U.S. federal debt has more than doubled, from USD13 trillion to over USD28 trillion. At the same time, China has been *reducing* its ownership of U.S. Treasuries. It can be hard to separate China's foreign exchange management from its geopolitical goals, but the latter are an unmistakable part of China's declining Treasury holdings, in our view. As for U.S. private sector investors, holdings of Chinese stocks and bonds have been flat-to-down for over a year. This is the case despite the never-ending increase in China's weight in the MSCI Emerging Markets Index, now at 32% and heading to 40% with the inclusion of domestic Shanghai and Shenzhen shares.

Textbook definitions of economic fracturing in other parts of the world: the UK's divorce from the European Union (EU), the collapse in U.S. immigration and the domestic content requirements for electric vehicle (EV) credits in the Manchin-Schumer bill.³ On the UK: Note the post-Brexit collapse in its exports to the EU when compared with the volume of intra-EU trade.

Ownership of U.S. Treasuries

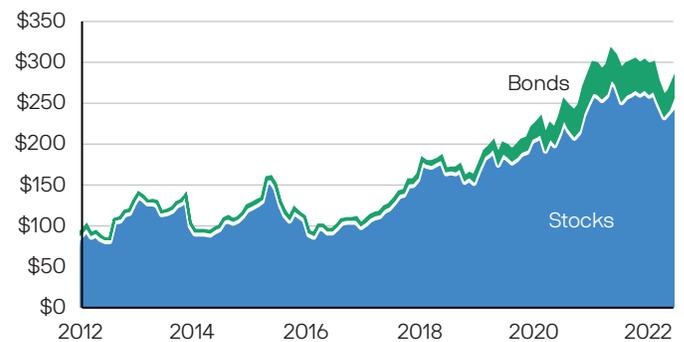
USD, trillions



Source: U.S. Treasury. June 2022.

U.S. holdings of Chinese stocks and bonds

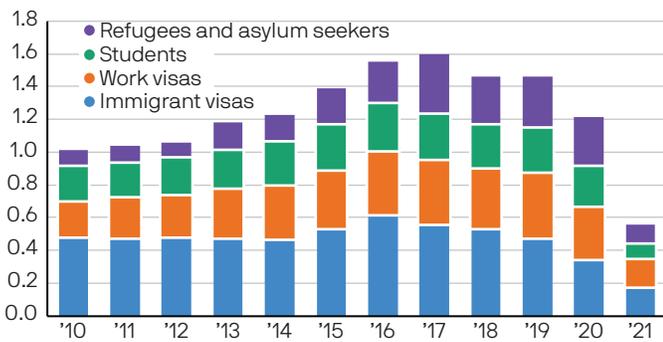
USD, billions



Source: U.S. Treasury. June 2022.

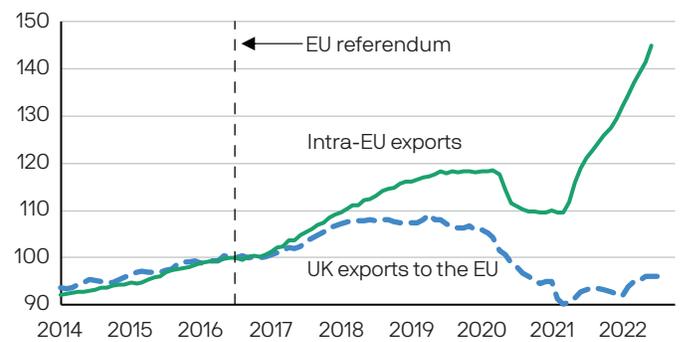
Foreign-born immigration to the U.S.

Million people



Source: U.S. Census Bureau. December 2021.

UK trade volumes with the European Union vs intra-EU trade, Index (100 = June 2016)



Source: UK ONS, J.P. Morgan Asset Management. June 2022. 12 month moving average.

³ The Manchin-Schumer bill contains domestic content rules for EV credits to be available to consumers. The share of critical mineral and battery components sourced from the U.S. and free trade agreement allies must be at least 40% in 2024, rising to 80% by 2027.

Another erosion of globalization: the invention of “digital service taxes” (DSTs), which are simply service sector tariffs by another name. You can read more about DSTs in a piece we wrote.⁴ A 2019 International Monetary Fund (IMF) paper described the theoretical underpinning of DSTs as being problematic, while the Peterson Institute for International Economics described DSTs as de facto tariffs that blatantly discriminate against U.S. firms. It was not that long ago that the OECD and an EU commission of tax experts cautioned against such taxes on the digital economy. But times have changed, and there’s an avalanche of countries that will apply

digital service taxes on U.S. tech giants if OECD tax negotiations fail, which could lead to retaliation by the U.S. DSTs are already feeding into inflation: **Amazon, Google and Apple are already passing along the cost of UK digital service taxes to their enterprise clients.**

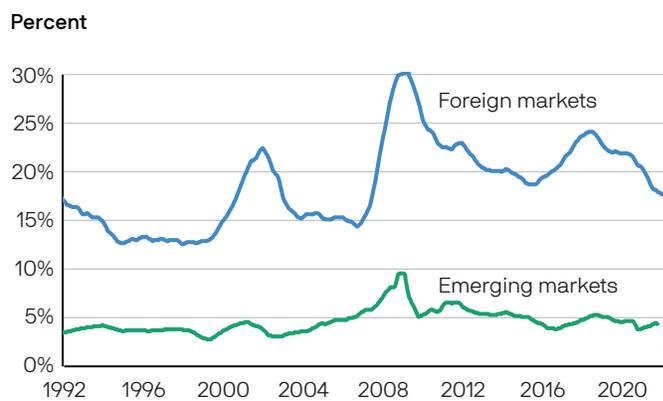
One consequence of a fracturing world: a gradual decline in the share of U.S. corporate profits earned in foreign markets, and signs that companies with greater domestic (U.S.) sales have been outperforming. This is not the case with every sector, but it’s a clear trend in resource-intensive capital goods.

Digital tax plan by OECD country

	Existing digital tax measures	Planned if OECD talks fail	No plans announced
Australia		●	
Austria	●		
Belgium		●	
Canada		●	
Chile			●
Colombia			●
Czech Republic	●		
Denmark		●	
Estonia		●	
Finland		●	
France	●		
Germany		●	
Greece		●	
Hungary	●		
Iceland			●
Ireland		●	
Israel		●	
Italy	●		
Japan			●
Korea			●
Latvia		●	
Lithuania		●	
Luxembourg		●	
Mexico			●
Netherlands		●	
New Zealand		●	
Norway		●	
Poland	●		
Portugal	●		
Slovakia		●	
Slovenia		●	
Spain	●		
Sweden		●	
Switzerland			●
Turkey	●		
United Kingdom	●		
Maryland (US)	●		

Source: Bloomberg, 2021.

Share of U.S. corporate profits from foreign markets and emerging markets



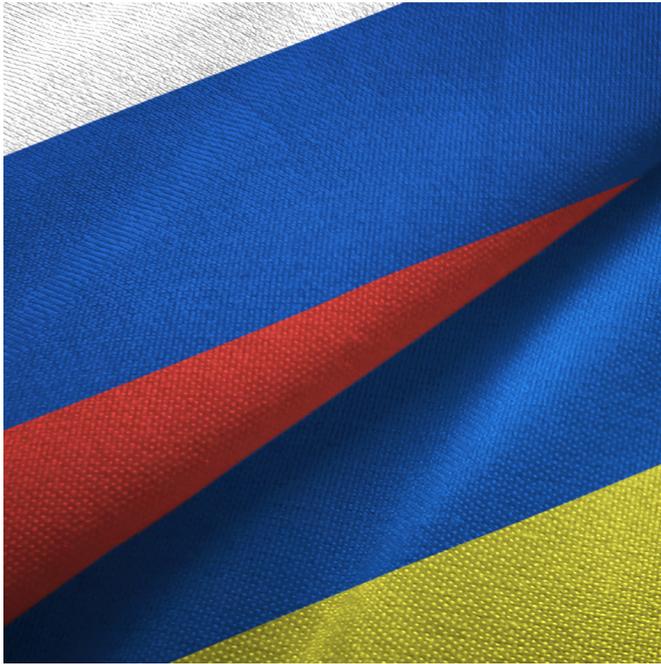
Source: GS. June 22, 2022.

S&P 1500 capital goods relative performance by U.S. share of sales



Source: Piper Sandler. July 11, 2022.

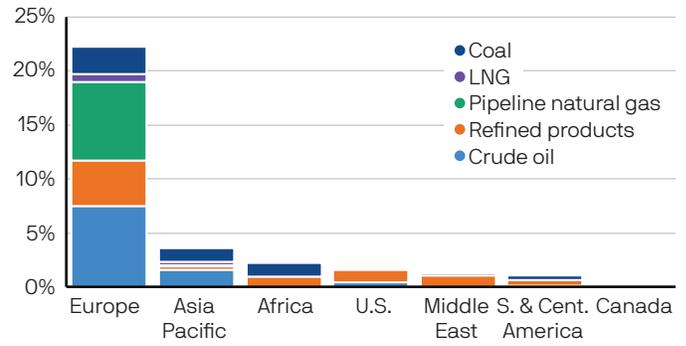
⁴ “Eye on the Market Outlook 2021: The Hazmat Recovery,” J.P. Morgan Asset Management, January 2021.



A closer look at the Russian invasion's impact on global markets

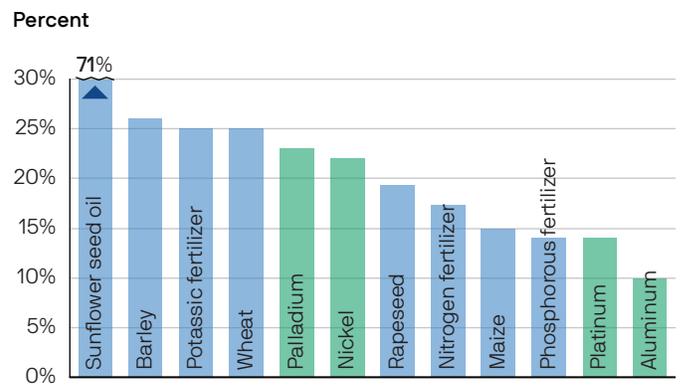
Investors can be forgiven for having forgotten about Russia. At the start of 2022, Russia represented just 4% of the MSCI Emerging Markets Index and 2% or less of global foreign direct investment, emerging markets fixed income and currency markets, world GDP and world population. Lurking in the background: Russia and Ukrainian shares of key energy, food and mineral supplies, whose prices rose sharply this spring. Europe's energy dependence on Russia has turned out to be a dangerous political mistake that historians will be writing about for hundreds of years; its undoing will be a costly, painful and inflationary process. The war has prompted other countries to engage in resource nationalism (Indian and Indonesian restrictions on exports of wheat, sugar and palm oil), further broadening the war's impact on global commodity markets.

Pre-war reliance on Russian energy imports by region
% of 2021 primary energy consumption



Source: BP Statistical Review of World Energy, J.P. Morgan Asset Management. 2022.

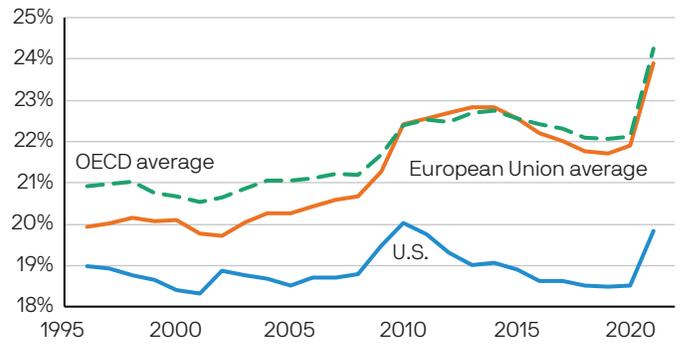
Russia and Ukraine share of global exports in 2021



Source: FAO, J.P. Morgan Asset Management. June 2022.

Short- and long-term macroeconomic impacts: a squeeze on discretionary spending as households have to pay more for food and energy, and a likely increase in military spending as countries react in various ways to the deadliest land war in Europe since the 1940's.⁵ Even with a possible resolution of the war in some way, a 1990's-style peace dividend is almost unimaginable at this point. Investors have noticed the deterioration in global security conditions; in 2021, U.S. venture capital investment in aerospace and defense soared to USD10 billion, up from just USD2 billion from 2015 to 2019 (and that was *before* the Ukraine war).

Housing expenditure share of household consumption
 %, housing, water, electricity, gas and other fuel share of consumption

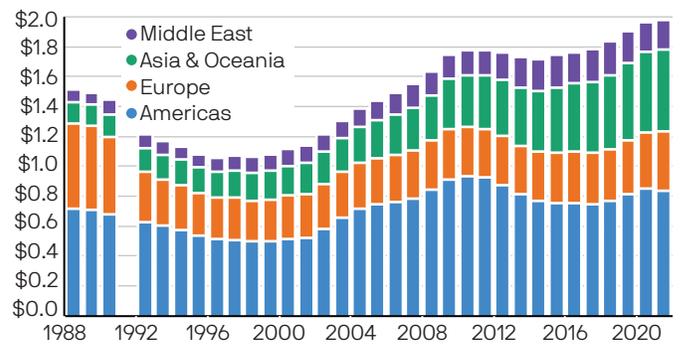


Source: OECD, Eurostat, J.P. Morgan Asset Management. 2020.



World military expenditure by region

Real 2020 USD, trillions



Source: SIPRI, J.P. Morgan Asset Management. 2021.

⁵ According to the Correlates of War project, the Russia-Ukraine war is rapidly becoming one of the deadliest conflicts of the last 200 years due to its lethality.

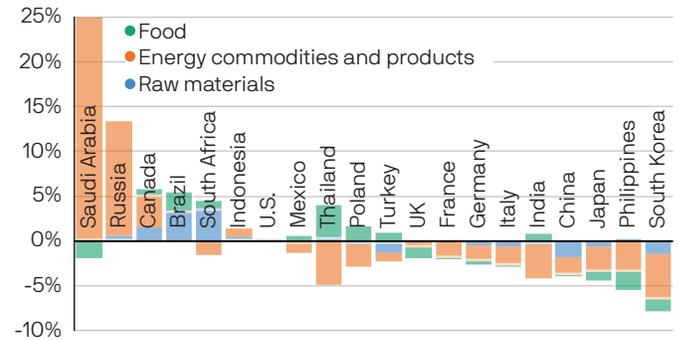
General investment implications

Before proceeding with our investment team discussions on asset classes, some high level thoughts on a lifeboat world:

- Higher inflation should result in lower valuations for equities. In our first SIAG paper, we highlighted how the surge in P/E multiples coincided with deeply negative real interest rates. As inflation forces real rates back up, valuation multiples of all kinds should decline. Our equities team estimates that if the cost of equity rises in isolation by 1% and remains at that level, P/E multiples could decline by around 20%. However, if the cost of equity, returns on equity and growth all rise by 1%, the hit to sustained P/E ratios would be lower at just 6%. So, a lot depends on the mix of growth and inflation that accompanies Federal Reserve (Fed) tightening
- The U.S. has abandoned its historical reluctance to adopt large-scale national industrial policy, with over USD1 trillion in forthcoming capital spending over the next decade on energy, infrastructure and semiconductor production after the passage of three different bills. On the margin, this will contribute to structurally higher deficits, higher inflation, higher productivity and tighter employment conditions, as well as create a lot of “national champion” companies that benefit from government-directed spending
- On energy, Germany and France have already made about-face announcements to increase coal and nuclear in the short term while seeking longer-term solutions to reduced Russian supplies. In the case of the U.S., while the Manchin-Schumer bill dedicates over USD350 billion to a variety of renewable energy categories, even optimistic forecasts assume a continued role for U.S. natural gas given the gradual decline in nuclear and coal. As shown below, greater investment in pipelines would maximize the value of enormous U.S. domestic reserves (U.S. oil and gas unproven reserves are 5x-6x larger than proven reserves.)

Commodity trade balance

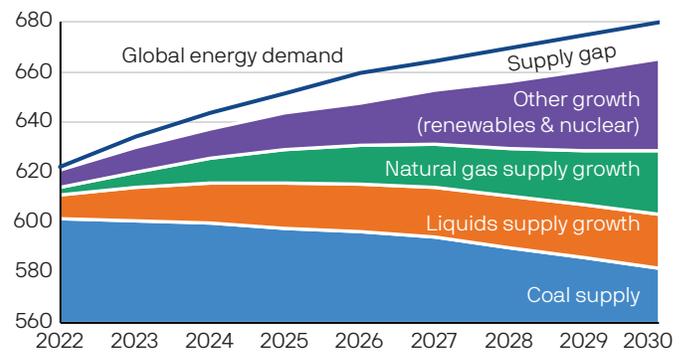
% of GDP



Source: Thomson Reuters, J.P. Morgan Asset Management, 2019.

Global energy supply vs demand

Exajoules

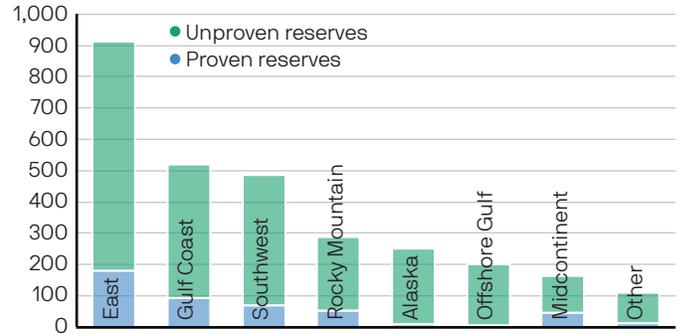


Source: J.P. Morgan Global Energy Strategy, 2022.



U.S. natural gas resources by region

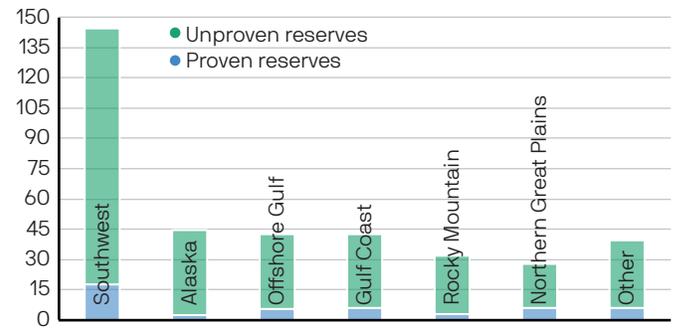
Trillion cubic feet



Source: EIA, USGS. 2020.

U.S. crude oil resources by region

Billion barrels

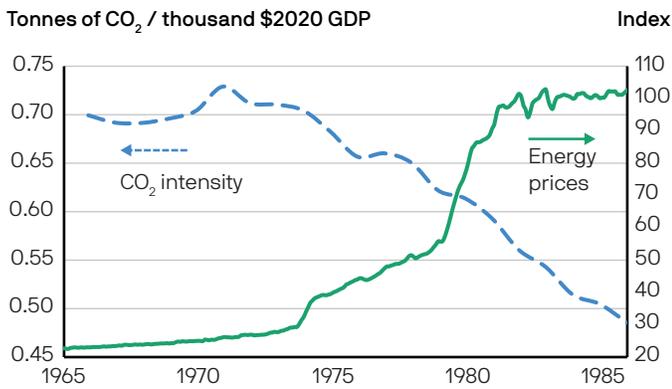


Source: EIA, USGS. 2020.

- A less headline-grabbing but equally important investment consequence: a drive for greater energy efficiency. The spike in energy prices in the 1970's unleashed a wave of more energy-efficient goods and materials in the 1980's, shown in the next chart as a decline in energy intensity (tons of CO₂ generated per unit of economic growth). The companies that made major advances in energy efficiency won the race while the laggards lost market share. Best example: the tragically slow reaction time of the U.S. auto industry in the 1970's and 1980's to changing customer preferences for smaller, more energy-efficient cars

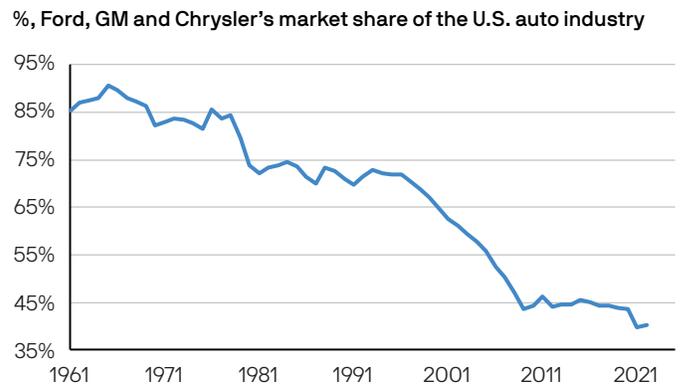


U.S. CO₂ intensity vs CPI energy prices, 1965 - 1985



Source: BP Statistical Review of World Energy, Conference Board, BLS, J.P. Morgan Asset Management. 2022.

Big three automakers' market share over time

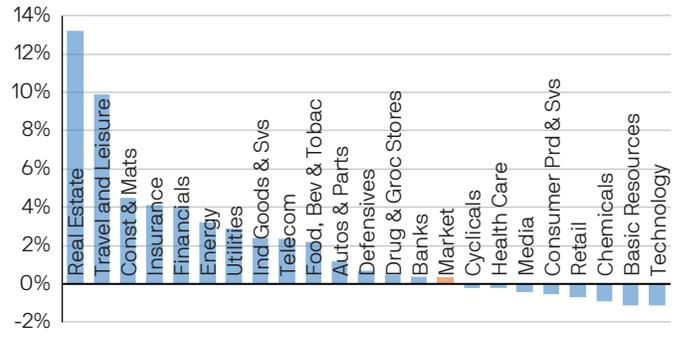


Source: WardsAuto, GoodCarBadCar, J.P. Morgan Asset Management. 2022

- There are some similarities and many differences between now and the 1970's. But if the broad patterns repeat themselves given the aftershocks of Russia's invasion of Ukraine, certain sectors could benefit, particularly as the largest countries in the world race to build their own energy, food, semiconductor, technology and infrastructure hubs. The outperforming sectors from the 1970's worth noting: industrial goods, construction materials, energy, food and telecommunications
- Investors will need larger valuation discounts to compensate them for the potential risks of investing in China. The lines between the private sector and the government are blurring as China pursues industrial policies of its own. In August of this year, Bridgewater Associates cited an increase in the number of Chinese Communist Party committees in private companies to about 48% of the total, de facto state and party-mandated corporate social responsibility efforts requiring companies to invest in policy-prioritized areas, and the newly reported permanent presence of cybersecurity regulators in technology companies. And then there's the issue of Taiwan, which we discuss next

Performance of U.S. equity sectors from 1974 to 1982

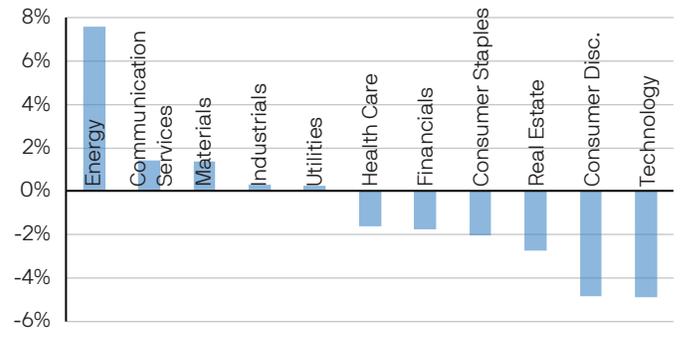
Percent, annualized average 2 month real return



Source: GS. 2022.

Relative returns of U.S. large cap sectors from 1970 to 1979

Percent



Source: Empirical Research. 2022.

The issue of Taiwan

Any discussion of a fracturing world order would be incomplete without mentioning Taiwan. Taiwan is crucial to the global semiconductor supply chain, accounting for the largest share of global semiconductor revenue at 20%-25%, depending on how it's defined. In addition, Taiwan's design and packaging/testing industries account for 27% and 20% of global market share, ranking second and first in the world. Finally, Taiwan accounts for 64% of the foundry market (factories making chips designed elsewhere).

Semiconductor supply chains rely on synergy among upstream (raw materials, equipment, wafers), midstream (intellectual property, circuit design, manufacturing, packaging, testing), and downstream (distribution) sectors. Taiwan's enormous investments in all three give it a substantial foothold that is unlikely to change quickly, despite the CHIPS and Science Act passed by Congress this year. Based on existing blueprints for expansion, Taiwan may still control 44% of the world's foundry capacity by 2025 and 58% of global capacity for advanced processes, despite the USD50-USD60 billion in the CHIPS Act dedicated to reshoring semiconductor production.⁶

China makes no secret of its intentions to reintegrate Taiwan with mainland China. The circumstances of any reunification would be of immense interest to investors for all the obvious reasons. Note how the U.S. and Europe lost their share of chip manufacturing capacity at almost the same rate as China's military improvement vs the U.S.⁷ Without "Manhattan Project" urgency,⁸ the U.S. may not be able to rebuild the semiconductor supply chain before the question of Taiwan is settled. As shown in the chart on the following page, the USD53 billion in the CHIPS Act dedicated to semiconductor production is much smaller than amounts needed for the U.S. to achieve semiconductor self-sufficiency.

Taiwan exports of electronic components

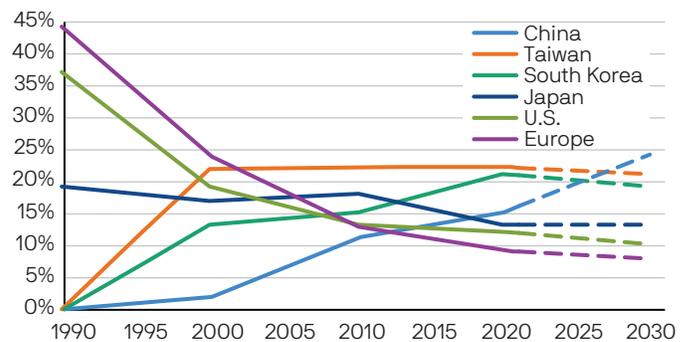
Index (100 = Dec 2019)



Source: Ministry of Finance, J.P. Morgan Asset Management. July 2022.

Semiconductor manufacturing capacity

% of global capacity



Source: SIA, Bloomberg. February 2021. Dotted lines represent estimates.

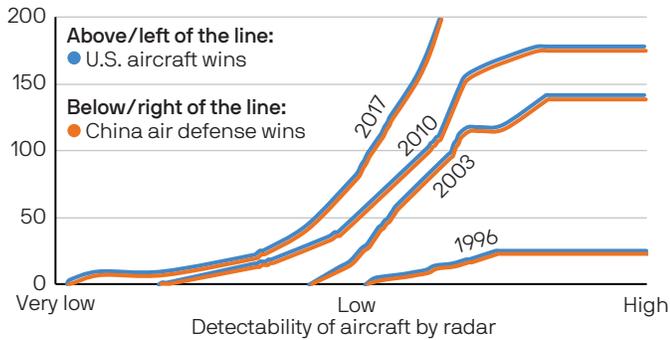
⁶ "Taiwan to control 48% of global foundry capacity in 2022," TrendForce, April 2022.

⁷ See our 2021 Eye on the Market Outlook section on this topic for more details.

⁸ Cost of the Manhattan Project during the 1940's: around 1% of GDP each year for 3 years.

U.S. aircraft vs Chinese air defense: modeled outcomes

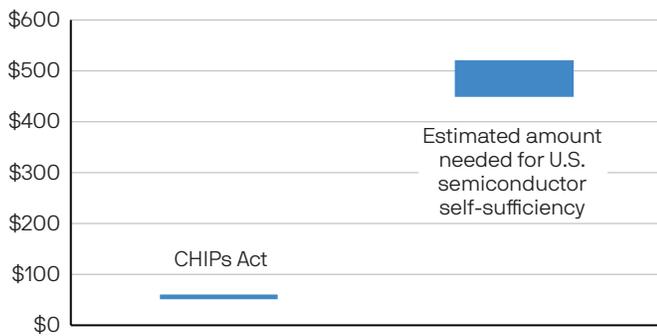
U.S. aircraft weapon range, kilometers



Source: Rand Corporation, Heginbotham et al. 2015.

Semiconductor bill spending and estimated amounts required for U.S.'s self-sufficiency

USD, billions



Source: Boston Consulting Group, J.P. Morgan Asset Management. April 2021.



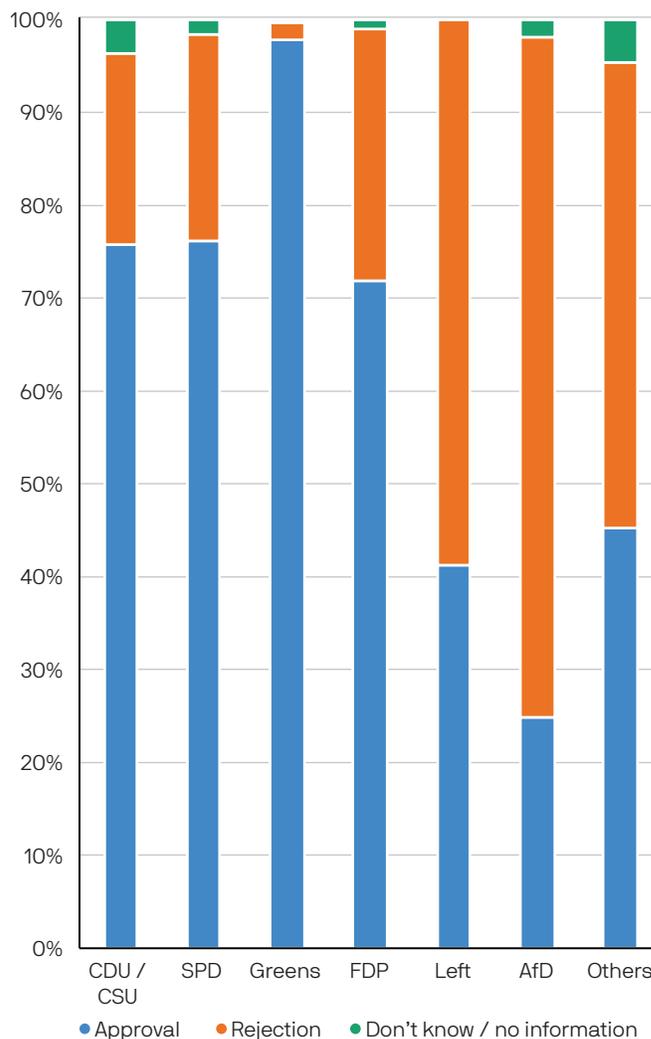
The United States is not the only country gradually distancing itself from China.⁹ As chancellor of Germany, Angela Merkel advocated a policy of “change through trade” based on the notion that economic integration would push China to be more market-driven and democratic. Many German officials now reportedly see this policy as misguided and view China as a competitor to Germany’s industrial strengths and as a potential source of geopolitical risk. Merkel’s pro-business stance on China is being shelved; first, the European Commission halted ratification of the EU-China Agreement on Investment, then Germany’s parliament passed a law obliging firms to audit suppliers for human rights violations. That’s quite different from Merkel’s approach of signing trade deals with China even during the Hong Kong political protests in 2019.

The Greens and the Free Democratic Party (FDP) now control key ministries that are shaping Germany’s policies with respect to China, and the Social Democratic Party (SPD), which initially backed Merkel’s approach, has changed course since Russia’s invasion of Ukraine. Germany’s economy minister refused to renew a sovereign guarantee for political risk losses sustained by Volkswagen from its investment in China, and this is likely a sign of things to come. Consider this: German Chancellor Olaf Scholz visited Japan rather than China on his recent trip to Asia, and described this as “no coincidence.”

For the Greens, the FDP, the SPD and the Christian Democratic Union (CDU), a tougher approach on China appears to reflect the will of their voters: As the next chart shows, a majority of these voters are in favor of reduced reliance on China and Russia even if it comes with an economic cost.

Do you want Germany to reduce its dependence on China and Russia, even if it comes at an economic cost?

% of survey respondents



Source: CIVEY, Gavekal Research, J.P. Morgan Asset Management. June 2022.

⁹ This section draws from various sources, including “Germany and China: end of the affair,” Gavekal Research, Yanmei Xie, August 12, 2022.

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Implications for equities



1) Energy sector – fossil fuels

The war in Ukraine is likely to have long-lasting impacts on the global energy sector. Europe is diversifying away from Russian energy, driving an acceleration in global liquefied natural gas (LNG) supply and related infrastructure investment. Russia had been expected to be a key source of incremental oil and LNG through the end of the decade (roughly 25% of new global liquefaction capacity). With the war, Russia's LNG projects are likely to stall due to reduced customer interest and limited access to Western technology. Other oil supply basins in the U.S., Canada, the Middle East, Africa and Australia are likely to see increased development at Russia's expense over time. Global energy policy is likely to place a greater value on supplier diversity and security as well as the related supply chains.

The five-year outlook for LNG demand has increased to almost 40% from less than 30%, with a continued acceleration beyond that due to the long lead-time on projects. LNG is capital intensive; LNG Canada, operated by Shell, is constructing a large plant in British Columbia with an estimated cost greater than USD20 billion excluding substantial pipeline infrastructure, and which will only add ~3% to global supply.

Subsectors positioned to benefit from increased LNG capacity include project developers, equipment and service providers and international oil companies (IOCs) serving as merchants, intermediating between smaller customers and countries and large project developers (which may include IOCs).

The replacement of lower-cost Russian piped natural gas with global LNG is likely to increase the long-term price of global gas. The reduction of Russian natural gas pipeline imports to Europe over the past year and resulting supply uncertainty have caused a major spike in prices. However, the required investment in liquefaction facilities, related transportation infrastructure and the upstream resource itself is likely to drive a higher cost of supply than in the past. The acceleration and compression of this investment cycle given the EU's policy to rapidly deemphasize Russian gas could increase pressure on project costs and ultimately the price of LNG delivered.



Baker Hughes (BKR US) is well positioned to benefit from several of these trends. A large-cap, diversified global oil services company, Baker Hughes is likely to benefit from stronger ex-Russia oil investment spending and its leadership position in LNG, where its equipment is installed on more than 90% of existing liquefaction equipment. Within LNG, Baker's modular LNG solutions can help accelerate project cycle times for projects, compared with past cycles. Baker also produces a differentiated suite of equipment such as compressors, pumps and heat exchangers while typically entering into long-term service agreements that provide visibility into cash flows following project completion. But projects may prove more capital intensive this cycle as developers add carbon capture capability and, in certain cases, will look to sequester a portion of the emissions.

Baker Hughes also provides energy companies with services in well construction, drilling and completion fluids, pressure control and a variety of subsea production engineering, equipment and services. These areas of oil investment are likely to see an acceleration, particularly with the multi-year drilling programs announced by national oil companies (NOCs) in the Middle East as well as growth regions such as Brazil and Guyana given reduced expectations for Russian oil exports.

Shell (SHEL LN) offers an outsize existing LNG portfolio of liquefaction plants and contracts from other facilities compared with its international oil company peers. We see the structural increase in demand as likely to benefit Shell because of its leading existing footprint as well as a number of projects already under construction and development. Shell's large-scale LNG production facilities and supply access give it a well-established core competency intermediating between smaller countries and utility customers.

Increased demand for such services offers Shell the opportunity for incremental margin due to its diversity and scale as the world's biggest LNG merchant. Its marketing and trading organization can benefit from price volatility, and the company as a whole will benefit if the transition to electrified industrial energy use and winter heating powered by wind, solar and storage is slower than many deep decarbonization plans expect. In other words, if the world is still highly reliant on natural gas in 10 to 15 years, Shell is well positioned to benefit.



The industry's muted capital spending response to the energy price surge could signify higher and more volatile long-run oil prices. The reluctance to invest reflects numerous considerations including (i) the long-lived nature of many investments and uncertain payback times and returns in a more volatile price environment where demand growth can no longer be assumed well into the future; (ii) a desire to avoid pro-cyclical investing that destroyed value in the past; (iii) goals to reduce absolute and relative greenhouse gas (GHG) emissions; and (iv) the strategic transformation, particularly among European oils, to evolve into more diversified energy companies with substantial zero or low carbon investments (due to mandates, subsidies, taxes, technology and changing consumer behaviors).



2) Utilities and renewables

A main plank of the EU's response to the Ukraine crisis has been to lean more heavily into renewables as a replacement for gas-fired power generation. Although we await tangible measures to effect this acceleration, this broad political support is a clear positive for developers of European renewables, including stocks such as Ørsted and RWE.

European policy makers have been wrestling with the concept of the “energy trilemma” for at least a decade. This refers to the problem of how to balance decarbonization, security of electricity supply and affordability. The war in Ukraine has exacerbated each one of these issues and made the balancing act even more difficult.

The most pressing short-term concern is **security of supply**. Europe is heavily dependent on Russian imports of gas, which in recent years made up 30%-40% of total European gas demand. In a scenario in which gas stops flowing from Russia into Europe, gas consumption would need to be heavily curtailed, especially next winter. While there would certainly be a gas volume shortfall in this case, electricity production would likely not be threatened. In most European countries, gas-fired power stations can be partially replaced by coal over the winter. The situation is not helped by poor hydro conditions across Europe and atypically low output from France's nuclear fleet due to faults.

Close behind the issue of securing sufficient volumes of electricity and gas comes the question of **affordability**. Even before the Ukraine crisis, gas and electricity prices were rising significantly (for a number of factors, including a strong bounce-back in industrial activity post-COVID-19). However, in the last few months wholesale electricity prices have risen even more markedly, in many cases reaching levels 6x-8x higher than historical norms. This is putting enormous pressure on consumer bills: Domestic bills in the largest



European electricity markets will likely increase by around 100% in 2022 (compared with 2020 levels) and could then almost double again if power prices remain where they are (and in the absence of political action and/or demand destruction to limit the increases).

As evidenced by the substitution of coal for gas, **decarbonization** is inevitably taking a back seat in the short term. However, a key part of Europe's response to the war (called REPowerEU) has been to accelerate its targets for new renewable installations. Crucially, renewables are being viewed as a way to address each element of the energy trilemma: security of supply (by reducing reliance on Russian gas), affordability (renewables are alleged to be the cheapest form of new power generation¹⁰) and decarbonization.

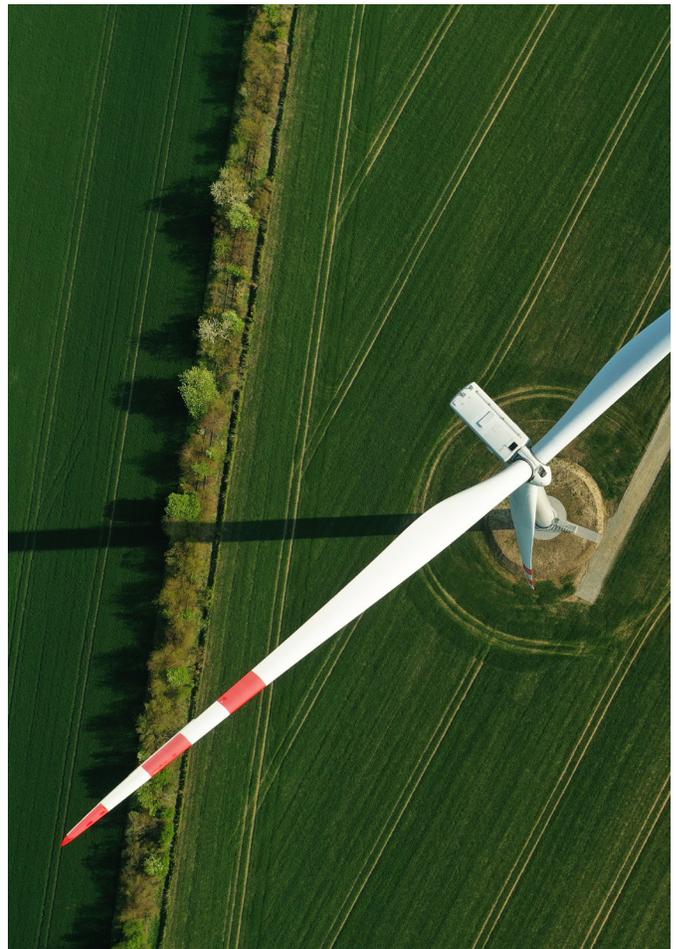
¹⁰ **Whether renewables are cheaper than natural gas is a hotly debated topic.** On the margin, levelized costs per MWh have fallen sharply for wind and solar power, and are sometimes cited as being below the levelized cost of natural gas, particularly when gas prices are soaring. However, a true measure of wind/solar cost would include all subsidies, plus the cost of backup thermal power or storage required during periods of intermittency, plus the incrementally larger transmission costs that high degrees of renewable penetration typically entail. The higher electricity costs in countries with higher wind and solar shares of electricity is one indication that levelized costs per MWh do not capture all of the systemic costs of wind and solar power.

Among the targets included in the REPowerEU package: an increase in the EU's 2030 target for renewables to 45% (from the current 40%), bringing total renewable capacity in the EU to more than 1,200 GW by 2030. But there's an open question as to whether higher targets can actually accelerate the pace of the renewable roll-out. There are certainly things that governments can do to help speed up deployment, the most significant of which would be to ease the planning and permitting processes that can often delay renewable projects by five years or more. We have yet to see any material reforms on this front, although the German government is due to announce plans to reduce the potential for local objections to delay new projects.

Nonetheless, EU and national government support – and the recognition that renewables are a crucial part of the response to the Ukraine crisis – are undoubtedly a positive for developers of renewables in Europe. Among stocks under coverage, we would highlight Ørsted (ORSTED DC) and RWE (RWE GR) as the key beneficiaries of these trends.

Ørsted is the global leader in offshore wind, with a market share in excess of 20%. The offshore wind market is expected to be the fastest-growing subsector of renewables, with annual installations offering a compound annual growth rate (CAGR) of more than 20% over the next decade. The EU's 2050 net zero target implies offshore wind capacity will need to grow from 15 GW today to 300 GW by 2050.

RWE is also heavily exposed to offshore wind (which explains around 35% of earnings) but also onshore wind, as well as flexible generation across Europe. The company is the most geared to an accelerated renewable roll-out in Germany and is also set to benefit from an increased need for flexible generation that will likely come with higher renewable penetration.



3) Energy efficiency

In order to reduce its dependence on imported gas, the EU has made energy efficiency a central pillar of its energy strategy. In particular the EU is targeting the buildings, industry, transport and energy supply sectors.¹¹ There are three pillars to this: Member states shall ensure that at least 3% of buildings owned by public bodies shall be renovated each year to at least nearly zero-energy buildings; the annual energy savings obligation for member states from 2024 to 2030 is increased from 0.8% to 1.5%; and there is a higher target for reducing primary energy consumption (39%) and final consumption (36%) by 2030. Combined, these measures will substantially reduce dependency on imported gas. This drive toward energy efficiency is creating investment opportunities throughout the world.

Heating and ventilation account for roughly half the cost of running a building. Improving their efficiency through high efficiency HVAC, heat pumps, insulation, LED lighting and energy-efficient white goods can make a substantial difference in energy consumption. Leaders in the HVAC space include companies such as Trane Technologies (TT) in the U.S. and NIBE Industrier (NIBE) in Sweden, while Schneider Electric in France is a leader in building efficiency technologies.

An area where industry can improve efficiency significantly is electric motors and inverters, which account for approximately half the energy used. Electric motors run everything from refrigerators to HVAC to plants and machinery. Electric motor technology has improved dramatically over the last few years, and replacing outdated motors with modern ones can lead to substantial energy savings. The Swiss company ABB is a market leader in high efficiency motors.

Finally, the entire process of electrification will reduce dependence on oil and gas, leading to significant energy efficiency. Electrification is impacting the way consumers generate electricity, through renewable energy; the way we heat and cool our buildings, through heat pumps; the way we drive, through electric cars. As supply and demand for electricity grow, significant investment in infrastructure to produce and deliver that energy will be needed, representing great investment opportunities. High voltage cables will play an important part in the electrification of the world, and the two industry leaders, Prysmian in Italy (PRY) and Nexans in France (NEX), should be key beneficiaries.



¹¹ For more information, see the “energy efficiency” Topics page on the European Commission website.

4) Food self-sufficiency and sustainable agriculture

The Ukraine conflict has pushed an already pressured global food system into crisis. Food prices were already rising before the war, due to severe weather events and COVID-19-related supply chain disruptions. As Russia and Ukraine are key global food exporters, the combination of war and the responses to it – sanctions and export restrictions by Indonesia, Argentina, Turkey and Japan, among others – has exacerbated food inflation, food shortages, income inequality and undernourishment. Higher prices place healthy diets further out of reach for the most vulnerable populations. These developments could trigger what UN Secretary-General António Guterres has called a “hurricane of hunger,” with the extent and severity of the storm significantly dependent on developments in the Ukraine conflict.

History tells us that global supply chains, especially those in agriculture and mining, tend to adapt relatively quickly to economic disruptions from regional conflicts. But now a more strategic, longer-term solution is needed. Policy makers need to rethink food supply chain implications, akin to the energy security debate.

There are long-term implications for the food and agriculture sector in the transition to more sustainable, secure, affordable food availability. After all, the food we eat and the way we produce it have long been unsustainable: Diets are not getting healthier and damage our planet. Food ranks second after energy as the biggest contributor to climate change: 50% of habitable land is already used for agriculture, 26% of GHG emissions are driven by food systems, and the equivalent of 2% of global GDP is either lost or wasted food. The UN estimates that the global population will grow by some 2 billion people by 2050, and as much as 50% more food could be needed for both a growing population and incremental food per capita.¹² To that extent, the Ukraine conflict brings an opportunity to rethink and accelerate solutions at all stages of the food



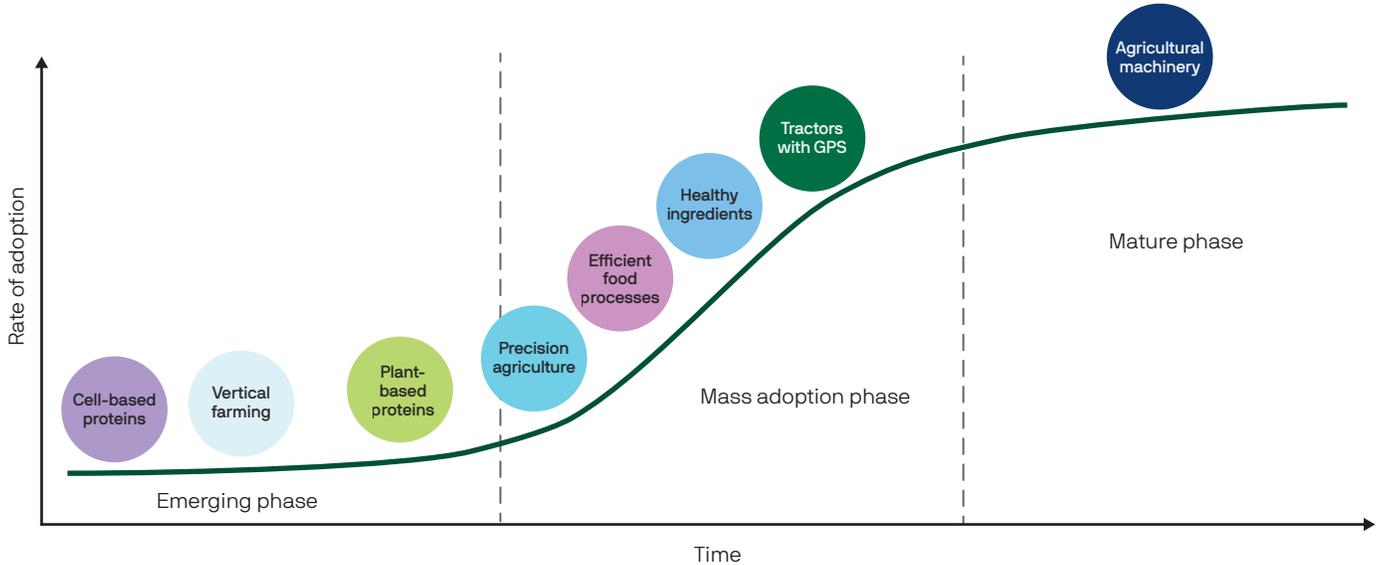
supply chain, from farm to fork: how food is grown, how food is processed and what is consumed. Consumers are already seeing the promise of a more sustainable and nutritionally led food system in three critical areas:

1. **Sustainable agriculture** and farm equipment companies are focusing on areas such as precision agriculture that provide data and technology to help farmers map out and monitor crops to water and fertilize only when needed, thereby increasing yields, while mitigating the environmental impact and the cost of inputs. Notable examples of companies providing leading solutions and services here include Deere & Co. and Kubota Corp.
2. **Efficient food processes** include food storage, testing and sorting technologies that are innovating in food testing, safety and distribution. A key focus is food waste reduction via circular solutions (food upcycling), smart packaging and cooling. Eliminating food waste in the U.S. and Europe alone would add 10% to the available food supply. Companies with leadership here include Trane Technologies in climate control solutions for preservation and distribution and SIG Group for safe, enhanced-life packaging. The scale and impact of enabling technology and solutions providers in precision farming, food processing and ingredients is where we see plentiful investment opportunities, as illustrated by this S curve of adoption

¹² “Creating a sustainable food future,” World Resources Institute, July 2019.

Policy makers need to rethink food supply chain implications, akin to the energy security debate

Efficient food process S curve



Source: J.P. Morgan Asset Management.

3. Sustainable and healthy diets allow for more and healthier food access using fewer inputs, locally sourced. Companies in this segment offer organic and diverse foods, alternative protein and dairy alternatives. Also, critical here is the role of ingredients companies that enhance the accessibility and supply of these less GHG-intensive foods compared with meat and dairy. Companies offering leadership nutrition products globally, within developed and emerging markets, include Symrise in ingredients and Tata Consumer Products in affordable, healthier foods

Together, these innovations can yield better-distributed, more localized production and application of new technologies, such as precision biology, fermentation, and vertical farming. These developments should accelerate the rise of substitute ingredients and modern foods that will eventually be cheaper and superior to their animal-derived ones and reduce waste.



5) Defense

“We’ve seen a fundamental shift in global commitment of resources for defense and national security, particularly in Europe.” – Kathy Warden, Chairman and CEO of Northrop Grumman, 2Q 2022 earnings call

When Russia invaded Ukraine on February 24, 2022, the invasion sent a shockwave around the world. Perhaps even more worrisome is that this conflict has lasted this long with the world watching. This war has had a profound impact on how leaders and populations worldwide are thinking about defense spending. Just two years ago, many around the world were asking if the North Atlantic Treaty Organization (NATO) was failing in its mission to protect members from war, to isolate Russia and to keep a strong U.S. presence in Europe. Many members failed to meet defense spending goals and attend meetings. Today, Finland and Sweden are on the cusp of joining NATO, and we are seeing increased defense spending from some of Europe’s largest nations – Germany, France, Italy, Norway, Poland, Romania and Belgium. While the world is watching Europe, Asian countries are increasing spending on defense as well – including Japan, Singapore, South Korea and Australia. Contrast this with decades of defense spending focused almost exclusively on the U.S., the #1 spender on defense in the world.

Perhaps as surprising, in retrospect, is the strategic view change – are we moving in the right direction or is there a plan for two types of “next major war”? For the past decade, the U.S. has steadily shifted to focus on air, naval and space capabilities to chase potentially emerging threats from China. America is shifting away from forces needed to fight conventional mechanized warfare. If Russia remains the threat that it is today, the world will likely see an increase in spending to keep a rapid unheralded attack on Europe at bay. It is perhaps on this front that the European NATO forces may begin to ramp spending up to protect their “home turf” in a more collective way than has been seen since World War II. It is unlikely that some of the new procurement programs steadily moving ahead of the U.S. armed forces will be cut in order to chase older technology, but it will require more focus than many had forecast.

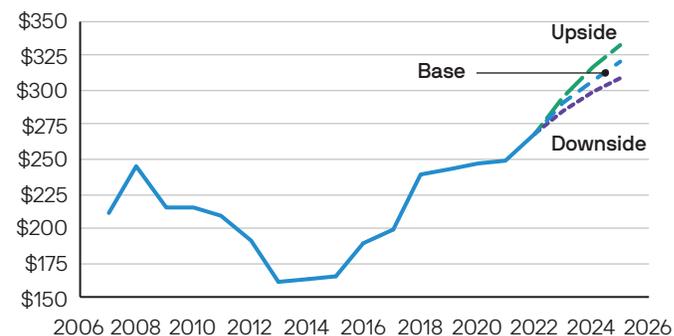
The U.S. has historically always been the largest

spender on defense in the NATO alliance – and will remain so even if the partners increase spending. In 2020 (the latest global data available), the U.S. accounted for about 70% of NATO spending; we expect this to shrink to 65% as the other member nations raise their spending levels. We don’t foresee the U.S. stopping its spending either. Just six months ago, many experts thought that pandemic spending pressures and a Democratic leadership structure in Washington, DC would lower U.S. defense spending to below GDP growth. This view has reversed sharply on the expectation of inflation but more importantly the recognized need to spend more on defense to address the rising risks in Europe. We are now forecasting total U.S. defense spending growth of 5% in 2022, 7.5% in 2023 and 6% in 2024 before returning to approximately nominal GDP spend.

U.S. budgets are biased to growth in both our bear and our bull cases.

Budget authorization for defense spending

USD, billions



Source: U.S. Dept. of Defense, J.P. Morgan Asset Management. 2022. Dotted lines indicate forecasts.

NATO's defense spend has grown about 4% for the past 20 years, driven by 5% spend growth in the U.S. and 3% outside of the U.S. Today, the non-U.S. NATO defense spend is just 1.8% of GDP – below targets, as was well highlighted by former President Trump in 2017 when he labeled NATO as obsolete. We expect spending in non-U.S. NATO countries to jump to a 10% CAGR in 2022-2024, which will take non-U.S. NATO spending up to 2.3% of GDP, above the target of 2%. While 1.8% doesn't sound so light relative to 2%, there are some large NATO members that will have to see a sharp increase, including Germany (1.4%), Canada (1.4%), Italy (1.4%) and Spain (1.4%). It is shorter to list which countries are complying – the UK at 2.2% and France at 2.1%. Countries with closer proximity to the Ukrainian and Russian borders (like Poland) are already ramping up spending above the 2% target; we think they will hit 3% in 2024.

How much China and Russia spend on defense is a matter of debate; on a reported basis, their combined spending is much less than the U.S.'s. But measured on a purchasing power parity (PPP) basis, their spending is much higher and closer to U.S. levels. Either way, it's not the actual threat of defeating the U.S. that the U.S. worries about, but rather the potential chaos that could be created by having a stronger opponent in China and/or nuclear risks with Russia (Russia has a greater number of nuclear weapons than the U.S. or China).

The investment implications for defense-related stocks changed dramatically in February 2022, and the largest pure plays have re-rated up dramatically. We see Raytheon as well positioned to grow from its



ground-linked as well as overall defense spending. In addition, it has significant leverage to the recovery in Commercial Aerospace, which is in the early stages of recovery. Other pure play defense names include Northrop Grumman, with leverage to new programs designed to combat next-gen threats in space, sea and air. L3Harris has exposure to the U.S. defense budget, but also has the greatest leverage to international sales potential (22% of sales in 2021). One caveat is that this spending focus is taking time to translate into revenues, but the space is seeing the beginning of awards to meet both domestic U.S. and international customer demand, which should begin to take shape in 2023 and last for several years.

NATO	U.S. dollars spent		2020 % NATO	CAGR (%)			% of GDP	
	2020	2024E		2020/2010	2020/2000	2024/2000	2020	2024E
Canada	22,755	40,893	2	2	5	16	1.4	2.3
Estonia	701	844	0	8	12	5	2.3	2.5
France	52,747	67,202	5	0	3	6	2.1	2.3
Germany	52,765	94,825	5	2	4	16	1.4	2.2
Greece	5,301	6,025	0	-4	1	3	2.8	2.8
Hungary	2,410	3,335	0	6	6	8	1.6	2.0
Italy	28,921	42,258	3	-1	2	10	1.6	2.0
Latvia	757	860	0	11	13	3	2.3	2.3
Lithuania	1,171	1,330	0	14	11	3	2.1	2.1
Norway	7,113	9,062	1	1	5	6	1.9	2.2
Poland	13,027	19,034	1	4	7	10	2.2	2.9
Portugal	4,639	5,272	0	0	4	3	2.1	2.2
Romania	5,727	7,927	1	11	9	8	2.3	2.8
Slovakia	1,837	2,543	0	5	9	8	1.8	2.2
Spain	17,432	27,572	2	-1	3	12	1.4	2.0
Turkey	17,725	22,582	2	0	3	6	2.8	3.1
UK	59,238	75,472	5	-1	2	6	2.2	2.5
U.S.	778,232	897,354	71	1	5	4	3.7	3.8
Total NATO	1,102,571	1,373,505	100	1	4	6	2.8	3.1
Ex U.S.	324,339	476,151	29	1	3	10	1.8	2.3

Source: SIPRI, J.P. Morgan Asset Management. 2020. Note: U.S. dollars spent is USD, billions.

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Implications for alternatives



The Russia-Ukraine war has altered the landscape for investments in traditional and renewable energy, supply chains and logistics, food, transportation and critical technology infrastructure, all of which are of interest to alternative investment managers, just as they are to public equity investors.

Securing traditional and renewable energy sources

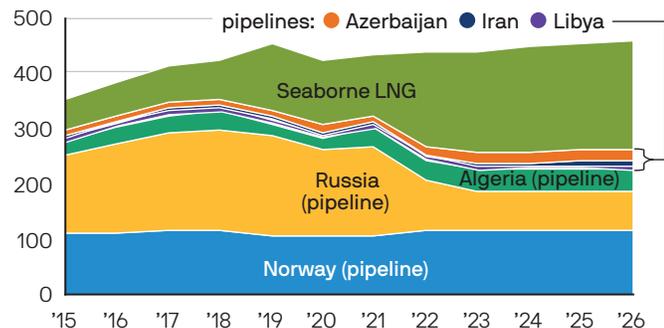
The search for energy security given the disruption in the global energy supply from the conflict, especially in Europe, has driven demand for both traditional and alternative energy sources:

- Liquefied natural gas (LNG) has seen surging demand, with volumes into the EU accounting for the majority of global import growth. Year-to-date, European seaborne imports have increased 52%, at the expense of Asia, whose imports are down 6%.¹³
- In March 2022, President Biden announced that the U.S. will deliver 15 billion cubic meters (bcm) of additional LNG to the EU in 2022; by 2023, the EU is expected to import an additional 50 bcm of LNG from the U.S.

- An already tight LNG carrier market has benefited from additional demand given limited capacity, with new vessel orders not delivering until 2026. LNG carrier one-year time charter rates have increased 33% relative to average rates over the past five years.¹⁴
- While there is strong demand, new LNG production capacity required to meet the soaring global demand will not be available until 2024 in the U.S. and 2025 in Qatar.¹⁵ In addition, despite growth in LNG fleet orders, only 30% of the current order book is scheduled for delivery before 2024.¹⁶ Increased investment in LNG infrastructure (liquefaction and regasification capacity) will be needed for Europe to completely shut down Russian gas imports before 2024.¹⁷ This creates a dynamic, multi-year opportunity where asset owners can partner with global counterparties to help bridge the transition to greater energy security.

European gas pipeline and seaborne imports

Billion cubic meters per year



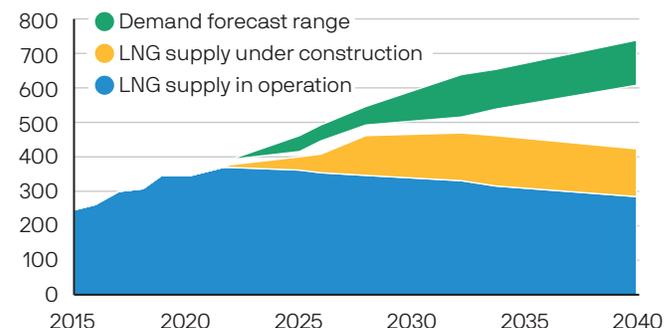
Source: UBS, J.P. Morgan Asset Management. 2022. Note: Estimates begin in 2022.

¹³ LNG Sector Update, Clarksons Research, June 2022.

¹⁴ Charter rates based on a 160,000 cubic meter (cbm) dual-fuel diesel electric (DFDE) ship. Average spot rates for a 160,000 cbm DFDE over the last 5 years was USD71,000, with the one-year term charter rate at USD75,000 over the same period. Data as of July 2022.

LNG supply-demand gap

Million tonnes, per annum



Source: Shell, J.P. Morgan Asset Management. February 2022.

¹⁵ Economist Intelligence, May 2022.

¹⁶ Clarksons Research, June 2022.

¹⁷ Economist Intelligence, May 2022.

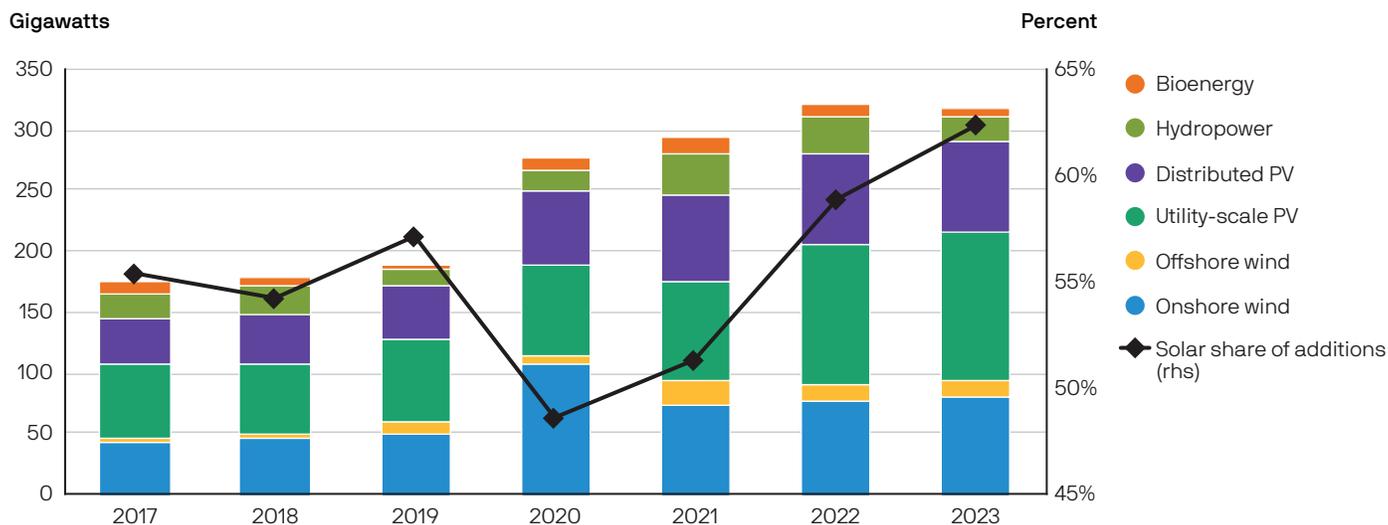
In renewables, accelerated adoption will require investment in infrastructure, leading to opportunities in real assets, private credit and private equity. Global investment in renewable energy totaled USD755 billion in 2021, a new record high and a 21% increase from 2020.¹⁸ In Europe alone, the European Commission has proposed an increase to the 2030 target for renewables from 40% to 45% of the EU's energy mix, with an additional investment of €210 billion required between 2022 and 2027. Despite rising raw material costs, renewable installations are expected to rise by 8% in 2022, with solar accounting for 60% of the increase in global renewable capacity,¹⁹ primarily driven by lower costs and faster deployment vs other renewable energy sources.

In infrastructure, an opportunity continues in utility-scale wind and solar assets that are able to generate

stable yield from long-term contracted power. In private credit, there are what we view as attractive opportunities to lend to early- and mid-stage solar developers looking to rapidly add new capacity, as well as an infrastructure debt opportunity to finance new wind and solar projects.

In private equity, managers have sponsored more than 1,000 U.S. clean-tech companies over the past decade, investing almost USD150 billion.²⁰ One area of technological innovation: transparent solar panels that can be used across a range of applications, including in agriculture to help farmers generate greater food security and leverage farmland for solar power.²¹ Lastly, growth in offshore wind creates increased demand for maintenance vessels, specialized assets required to support and maintain offshore wind farms.

Net renewable capacity additions by technology



Source: IEA. May 2022

¹⁸ World Economic Forum, IEA, June 17, 2022.

¹⁹ IEA – Renewable Energy Market Update (Outlook for 2022 and 2023).

²⁰ American Investment Council, 2021.

²¹ Solar Magazine, "Transparent solar panels: Reforming Future Energy Supply."



Securing supply chains: Global industrial logistics 2.0

Industrial real estate has seen strong growth on the back of record rental growth and low vacancies, and is now the largest U.S. core real estate sector.²² Despite that backdrop, companies looking to strengthen domestic supply chains may create new and expanded opportunities for industrial real estate, from both goods manufacturing in the U.S. and increased distribution. While this trend was increasing prior to the pandemic, the onset of the Russia-Ukraine war and global geopolitical uncertainty have accelerated the need for creating resilient supply chains. CEOs highlighted onshoring, reshoring or nearshoring a record amount during their 2Q 2022 earnings reports, an increase of nearly 1,000% prior to the pandemic.²³ The construction of new manufacturing facilities in the U.S. has soared 109% over the past year,²⁴ with growing signs of onshoring across industries, particularly for those where advanced automation can offset rising labor costs. In 2022, Intel announced two new semiconductor facilities in Phoenix and Columbus; aluminum and steel plants are being built across the South and Midwest

(including new plants announced by U.S. Steel, Nucor, and Novelis); and Lego announced it will create its first U.S. manufacturing facility since leaving the country in 2006.²⁵ Securing supply chains could lead to a shift from just-in-time to just-in-case inventory, which could drive inventories up by more than 5%-10%, creating 57 million-114 million square feet of additional logistics demand per year over the next five years without accounting for any rise in sales.²⁶

In addition to increased demand from onshore manufacturing and distribution, expanded domestic logistics opportunities may arise, including in areas such as outdoor industrial storage, truck terminals and advanced intermodal logistics facilities, with an expansion in rail and truck transportation. We also see opportunity in inland port cities that can become critical for domestic supply chains: Dallas, Denver, Phoenix, Columbus, Salt Lake City and St. Louis, to name a few. Age is also a factor: More than 70% of U.S. industrial assets were built before 2000 and over 30% of industrial assets are over 50 years old, creating demand for new, cutting-edge industrial assets instead of existing assets.²⁷

²² NCREIF U.S. Core Open-Ended Diversified Property Index, March 31, 2022.

²³ Bloomberg, July 5, 2022.

²⁴ U.S. Census Bureau, Dodge Construction Analytics, July 20, 2022.

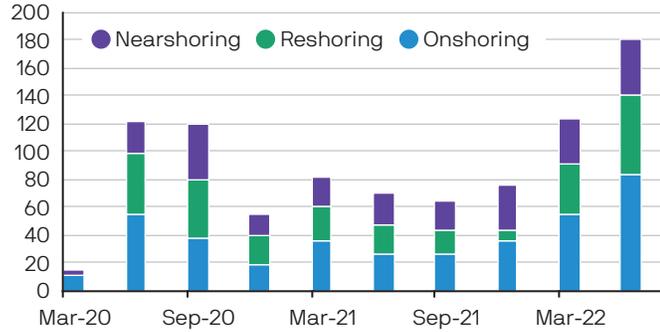
²⁵ Forbes, Lego, June 15, 2022.

²⁶ Prologis Research, March 2021.

²⁷ Newmark Real Estate Group, March 2022.

Key manufacturing words in U.S. corporate presentations

Number of mentions



Source: Bloomberg, J.P. Morgan Asset Management. June 2022.

U.S. manufacturing construction spending

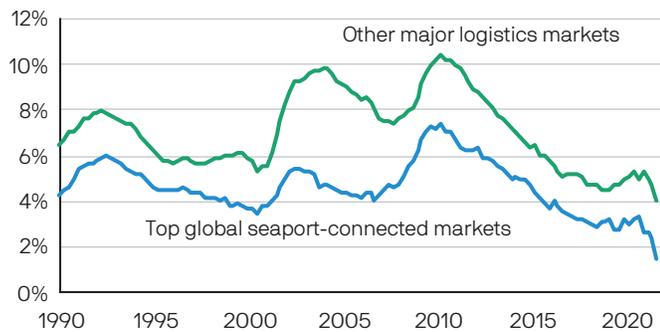
USD, billions



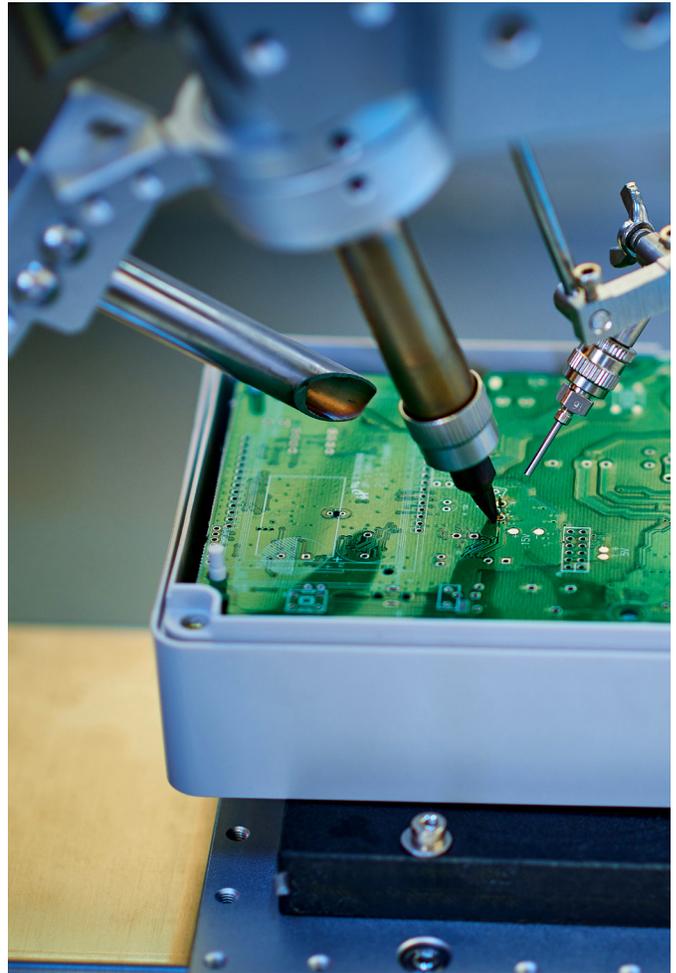
Source: Federal Reserve. June 2022.

Logistics vacancy rates

Percent, vacancy rate



Source: CBRE, JLL, Gerald Eve, Prologis Research. 3Q 2021.





Securing food: Onshore and offshore transportation

The lingering effect of the COVID-19 pandemic coupled with supply chain challenges and high inflation has driven global food prices higher since mid-2020.²⁸ Since the onset of the Russia-Ukraine war, the increase in grain prices and freight rates could lead to an estimated 4% additional increase in consumer food prices globally, with almost half the impact coming from higher shipping costs, according to UNCTAD.²⁹ As per the UN, Russian and Ukrainian supply accounted for about 30% of the world's wheat and barley and one-fifth of the world's maize. Russia hasn't always been a large exporter of the world's grains; in the last 30 years, grain production in Russia and Ukraine increased 66%, with Russia moving from being a net grain importer of

3 million tonnes per year from 1996-2000 to becoming the world's largest net exporter of an estimated 49 million tonnes of wheat and coarse grains in 2020-21.³⁰

The Russia-Ukraine war may see a new redistribution of the global grain trade. For example, Brazil has been supplying greater wheat volumes to Africa, the Middle East, and parts of South Asia, which increases seasonal demand for shipping on trans-Atlantic routes and takes capacity out of the market. India, historically a net importer, has seen record exports, and Brazil's exports of wheat surpassed all of last year in the first three months of 2022. Additionally, there will likely be an increase in more domestic and regional transportation of food, driving an opportunity in areas such as domestic rail and truck, as well as greater tonne-mile demand for mid-size and smaller-sized dry bulk ships.³¹

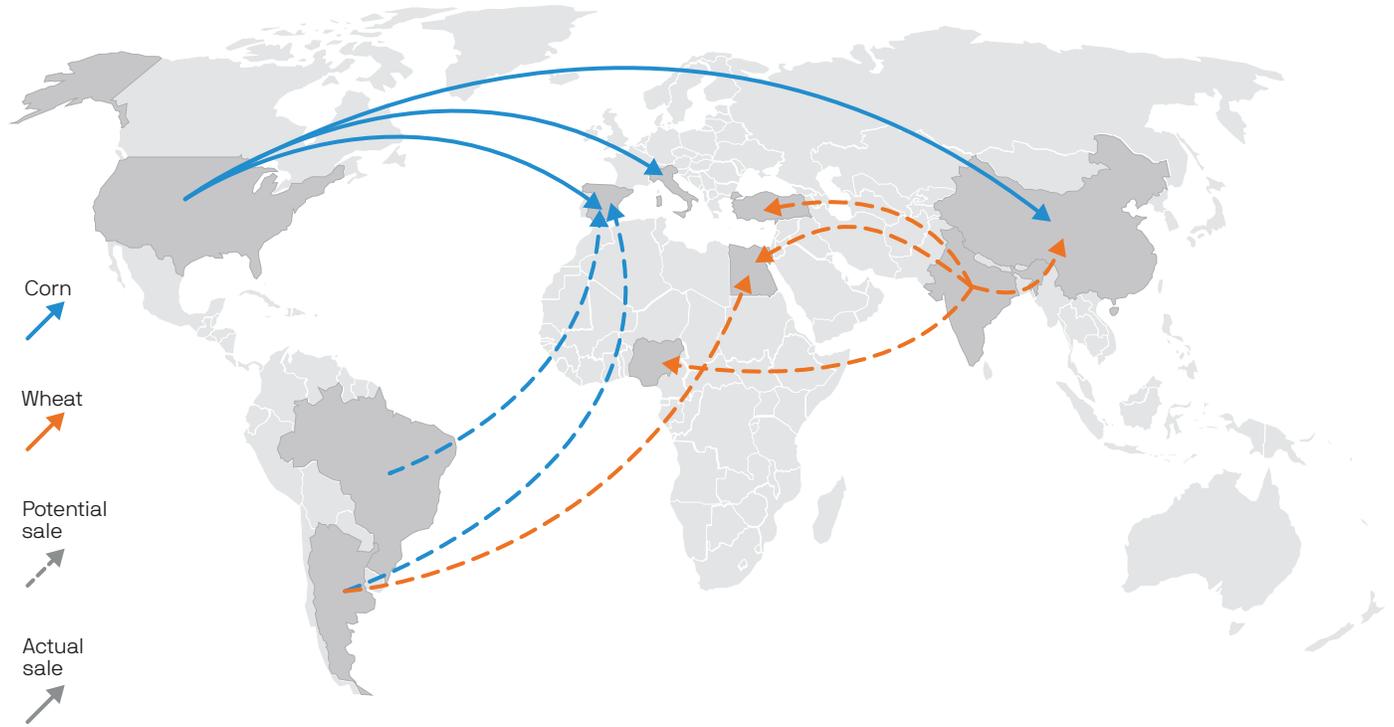
²⁸ "The Ukraine War is Deepening Global Food Insecurity — What Can Be Done?" United States Institute of Peace, May 2022.

²⁹ "Maritime Trade Disrupted: The War in Ukraine and Its Effects on Maritime Trade Logistics," UNCTAD, June 2022.

³⁰ "A century of grain trade," World Grain, May 28, 2021.

³¹ "The Ukraine War is Deepening Global Food Insecurity — What Can Be Done?" United States Institute of Peace, May 2022.

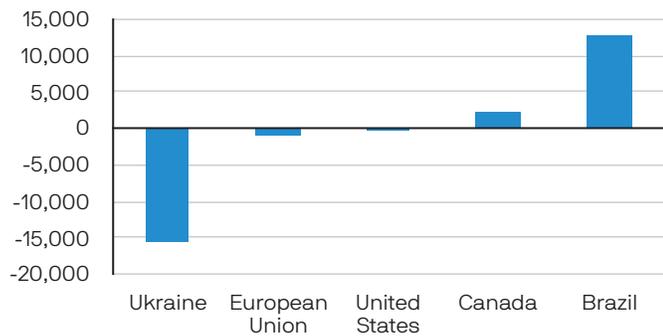
Redrafting trade: The war in Ukraine is shifting global crop export flows



Source: Bloomberg.

World coarse grain exports

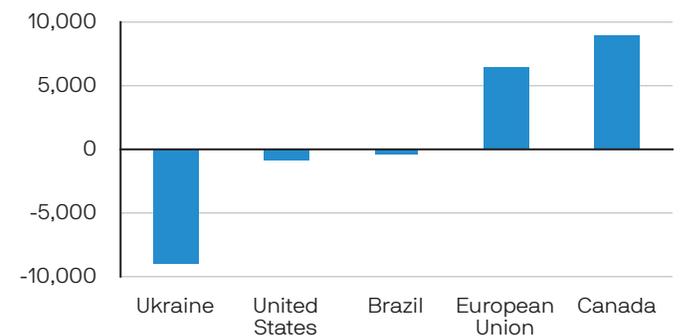
Thousand metric tonnes, TY 2022/23 vs TY 2021/22



Source: USDA, Foreign Agricultural Service. June 2022. Note: Trade year (TY) is October / September year.

World wheat exports

Thousand metric tonnes, TY 2022/23 vs TY 2021/22



Source: World Markets and Trade Report. June 2022. Note: Trade year (TY) is July / June year.



Securing critical infrastructure and information technology

In the context of waning globalization and a world grappling with supply chain disruptions, the opportunity set in private markets has shifted to reflect these trends. One example is in semiconductors, where a shortage has impacted a range of industries – e.g., automotive, wireless communications, electronics – given difficulty in sourcing raw materials (Russia supplies 25%-30% of palladium,³² a rare metal used in semiconductors) as well as transportation availability and cost (both maritime and aviation). Private equity has taken steps to adapt to this challenge, providing strategic capital for startups developing the next generation of semiconductors. From 2020 to 2021, venture investments into U.S. semiconductor startups increased over 50% (from USD1.7 billion to USD2.6 billion).³³ In addition to addressing the shortage, an emphasis on application-specific semiconductors (vs general-purpose semiconductors) is transforming the industry, improving efficiency while reducing the power consumption of these chips. The U.S. government is also supportive of these trends, as demonstrated by

the CHIPS and Science Act, which will provide USD53 billion in grants and USD24 billion in tax credits to further strengthen domestic production of semiconductors. These trends point to a continued and growing need for capital – and an opportunity for private equity investors – to support domestic production of semiconductors.

Another example is in the growing need for cybersecurity. The adoption of digital technology has played an essential role in the operations of businesses across the globe, providing for efficiencies and competitiveness across markets and sectors. As this theme continues to be at the forefront of corporate agendas, the growing risk of cyber threats cannot be ignored. Cybersecurity is a growing threat worldwide, constantly evolving in form and coming from a variety of sources. Although this is a well-understood concern – security spending is the second-highest priority of CIOs and the least likely project to be cut in a downturn³⁴ – corporations are significantly underprepared in their ability to prevent and mitigate related damages. Security breaches can be extremely costly for companies of all sizes and have caused considerable losses, estimated by McAfee to be USD1 trillion in 2020.

³² "Semiconductor shortage: How the automotive industry can succeed," McKinsey, June 2022.

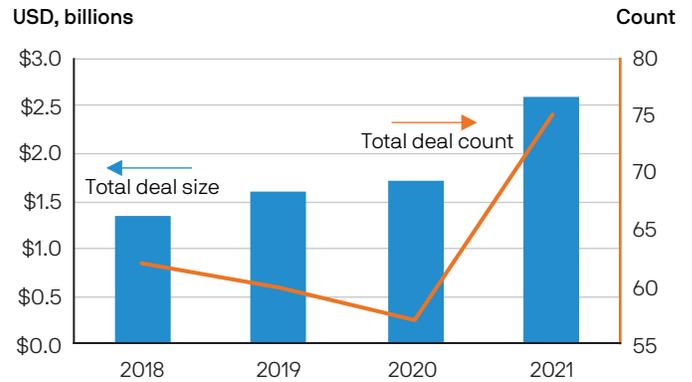
³³ "Private Capital Is Funding the Next Generation of Semiconductors," Brownstone Research, March 2022.

³⁴ Alphawise 2Q2022 CIO Survey, Morgan Stanley Research.

The importance of cybersecurity continues to grow, further amplified during periods of geopolitical tension, such as the current Russia-Ukraine war. Governments and corporations look to stay one step ahead of risks but are frequently in a reactive position given the constantly evolving nature of threats. Even prior to the Russia-Ukraine War, it was predicted that cybersecurity spending would increase to USD376 billion by 2029, which represents an annual growth rate of 13%.³⁵ The opportunity is well recognized and private equity investors have deployed capital accordingly. In 1Q 2022, venture capital investment in cyber startups was nearly USD6 billion, nearly a 50% increase from 1Q 2021 and setting a pace to eclipse the USD20 billion invested last year in the industry (which is the current all-time high).³⁶ As cyberattacks continue to make headlines, it is anticipated that private equity will play a role as a capital source to combat this ever-evolving global threat.

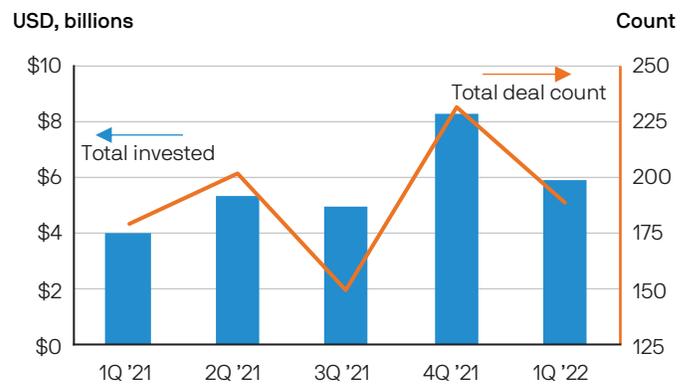


VC investment into U.S. semiconductor startups



Source: Brownstone Research, Pitchbook, SVB Proprietary Taxonomy, 2021.

Cybersecurity venture funding



Source: Crunchbase, April 2022.

³⁵ "Cyber Security Market to Reach \$376.32 billion by 2029," Fortune Business Insights, March 2022.

³⁶ "Cybersecurity Funding Remains High Even As Venture Cools Off," Crunchbase, April 2022.

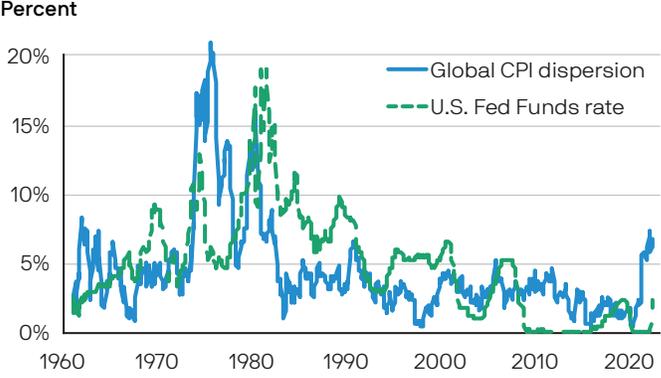


**Macroeconomic uncertainty:
Hedge funds and market volatility**

The convergence of macroeconomic factors occurring simultaneously, including the inflationary pressures on food and energy prices, the strained global supply chains, decelerating global economic growth and geopolitical instability, collectively has a destabilizing impact on the global economy. The political implications of an emerging new world order will impact countries globally, creating imbalances as countries identify secure energy and food sources and revive domestic and regionalized supply chains. As a result, the near- to medium-term environment is likely to create greater macroeconomic uncertainty, as defined by the volatility of GDP-related measures over time.³⁷ As seen in the illustration at right, the recent period, particularly during the 2010s, had relatively low macroeconomic uncertainty, as global central banks and global economies generally moved in sync, driven by a steady decline in global central bank policy rates, as a result of the steady growth of globalization, and continued cost declines and deflationary pressures. If the economy enters a period similar to the 1970s, that could create elevated macroeconomic uncertainty, which could

create elevated volatility across markets and across asset classes, including equities, rates, currencies and commodities. Historically, fundamental global macro hedge funds are well positioned to benefit from rising macroeconomic and market volatility, which has been seen so far year-to-date in 2022, with macro hedge funds outperforming other hedge fund asset classes, benefiting from the increasing macroeconomic volatility so far.³⁸

Global CPI dispersion and the U.S. Fed Funds rate



Source: Federal Reserve. June 2022. Global CPI dispersion measures the difference between the highest and lowest inflation across developed markets.

³⁷ Caldara, Dario, Chiara Scotti and Molin Zhong (2021), "Macroeconomic and Financial Risks: A Tale of Mean and Volatility," International Finance Discussion Papers 1326. Washington: Board of Governors of the Federal Reserve System.

³⁸ HFRI Indices Performance. As of July 25, 2022.



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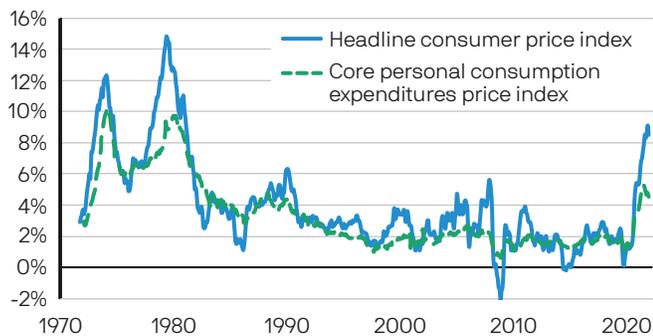
Implications for Fed policy and liquidity strategies

The current environment has clarified the Fed’s prioritization of its stated and unstated objectives, which include the traditional dual mandate of inflation and full employment as well as the less formalized goal of financial market stability.

Those who believed – with some justification – that a “Fed Put” was in place are now recognizing that financial asset price protection ranks further down the list of priorities than previously thought. Inflation fighting has taken precedence over other objectives, and rightly so: Inflation is at multi-decade highs while employment conditions remain extremely healthy. On the other hand, financial markets, while down significantly, have fallen from historically rich levels to something closer to normal. The Fed’s return to inflation-focused policy-making will have implications across the markets, but in particular on the front end of the yield curve.

U.S. consumer price index vs personal consumption expenditures

%, y/y change



Source: BLS, BEA, J.P. Morgan Asset Management. July 2022.

In the past, because of short-term volatility in energy and food prices, headline inflation has been a poor guide for monetary policy. Such price moves tend to abate rapidly as rising prices lead to both greater substitution into less expensive goods on the demand side and increased supply. For this reason, the Fed has focused on changes in core measures of inflation over headline ones when setting policy. However, if the free trading of commodities is restricted and key supply chains are brought onshore out of national security concerns, structural inflation will increase as countries around the globe compete for a finite supply of resources. Further, in a less globalized market characterized by diminished international connectivity in supply and demand, local supply shocks will lead to sharper local adjustments in prices. Under this regime, headline inflation may prove to be less apt to revert over short horizons and therefore play a more significant role in Fed policy decisions. It follows that this introduces an additional layer of uncertainty to policy setting and could, in time, lead to higher nominal and real policy rates.

Liquidity management is centered on short-term fixed income markets where the interaction of Fed policy and inflation drive real returns and investor behavior. After a decade-long winter of Fed-induced negative real rates, during which the appeal of holding highly liquid assets was lacking, the rapid normalization of monetary policy has restored some balance to the market. At the same time, the rising levels of economic uncertainty and market volatility should increase the value of holding liquidity, whether the user is a corporation facing uncertain business conditions or an investor facing elevated market volatility.

For those seeking to hold tactical liquidity, stability is the critical attribute: The investment should have limited interest rate risk, limited credit risk and be readily convertible to cash either by maturity or via secondary market sale. Of course, stability is generally accompanied by lower return potential across time. Therefore, as the size of liquidity pools grow, it may be advisable to adopt an approach that segments liquidity into tiers that offer differentiated levels of stability and return. Below we show a spectrum of short-term fixed income strategies in order of increasing duration risk from left to right:

Various front-end strategies

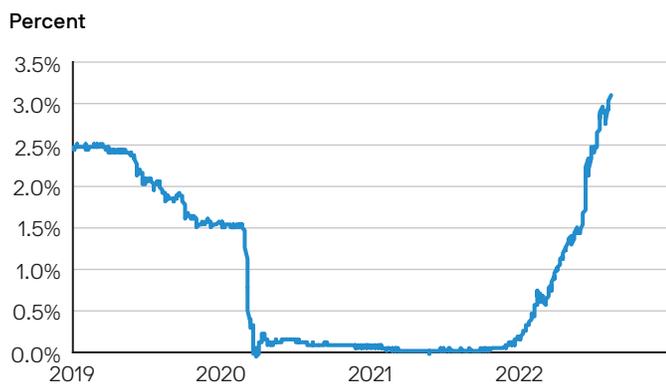
	U.S. FDIC National Savings Rate	Government money market strategy	Bloomberg Capital U.S. FRN < 5 Years Index	Prime money market strategy	ICE BofA 3 Month U.S. Treasury Bill Index	ICE BofA 0-1 Year U.S. Treasury Index	ICE BofA 0-1 Year AAA-A U.S. Corporate Index
Current Yield	0.10%	2.00%	3.47%	2.23%	2.43%	2.84%	3.54%
Duration (years)	None	Negligible*	0.04	0.05	0.19	0.47	0.49
Spread duration / WAM (years)	Negligible	Negligible	1.85	0.12	Negligible	Negligible	0.61
Max drawdown in last 3 years	None	None	-412 bps	-12 bps	-6 bps	-37 bps	-174 bps
Time period of drawdown	N/A	N/A	March 2020	March 2020	June 2022	June 2022	March 2020
Pricing	Stable NAV	Stable NAV	Mark to market	Mark to market	Mark to market	Mark to market	Mark to market

Source: Bloomberg, FDIC, ICE BofA, J.P. Morgan Asset Management. August 15, 2022.

*Note: Due to its Stable NAV at the shareholder level, assuming it does not break the buck.

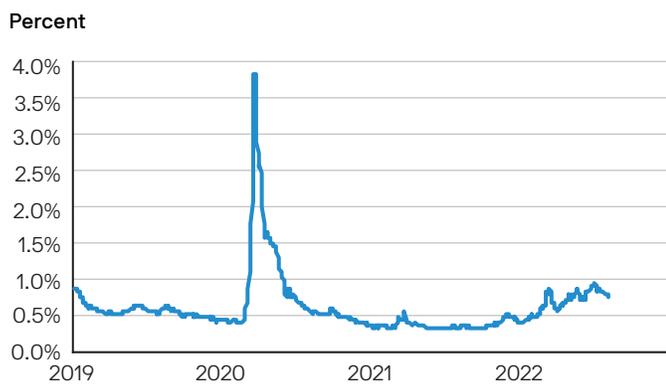
The last three years were a great time to assess various fixed income strategies. Within that time period, we saw monetary easing and zero interest rate policy (ZIRP) from March 2020 to February 2022; a brisk 225 basis points (bps) of monetary tightening thus far in 2022 – a pace not seen since 1994; a pandemic-induced credit selloff in March 2020; and a reopening-led credit rally from April 2020 to September 2021. Although the magnitude of the market moves was somewhat muted in the front end compared with other parts of the investment universe, this recent period was nevertheless a stress test of historic dimension.

6 month Treasury bill yield



Source: Bloomberg, J.P. Morgan Asset Management. August 22, 2022.

U.S. corporate 1-3 month option adjusted spread rate



Source: Bloomberg, J.P. Morgan Asset Management. August 22, 2022.

In the current environment, the safest option for tactical liquidity is a government money market fund (MMF) strategy. Because it has virtually no credit or duration risk at the shareholder level, it avoids drawdowns in spread or rate selloffs, and unlike longer fixed income strategies, its returns increase throughout a tightening monetary cycle. These strategies³⁹ benefit from direct access to the Fed's Overnight Reverse Repurchase Agreement Facility (ON RRP), which provides exceptional flexibility and liquidity along with an attractive zero-duration yield.

As noted above, as liquidity pools grow, investors will need a more nuanced strategy that balances the mix of risk and return while preserving a high degree of stability and liquidity. Extending slightly further out on the yield curve allows liquidity managers to do so, but care must be taken. Adding credit risk, even in short maturities, increases yield but can expose the liquidity pool to higher drawdowns and potential capital losses. Diversification across the spectrum of short-duration assets is helpful, and active credit selection is an essential feature that can offset these risks while preserving the benefits of higher return.

³⁹ If executed within a U.S.-domiciled Securities and Exchange Commission (SEC)-registered MMF that is an approved counterparty to the Fed.

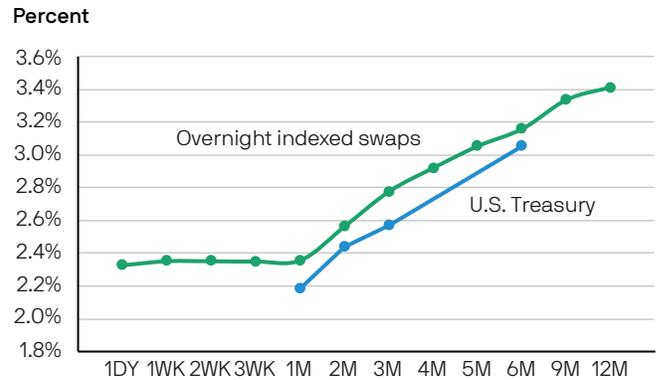
A deeper dive: A wonky look at government money market funds

It is obvious why government money market fund strategies outperform credit strategies during periods of spread widening, but there are also two key drivers of the current relative outperformance of government money market fund strategies vs. other front-end rates strategies:

Access to Fed's ON RRP

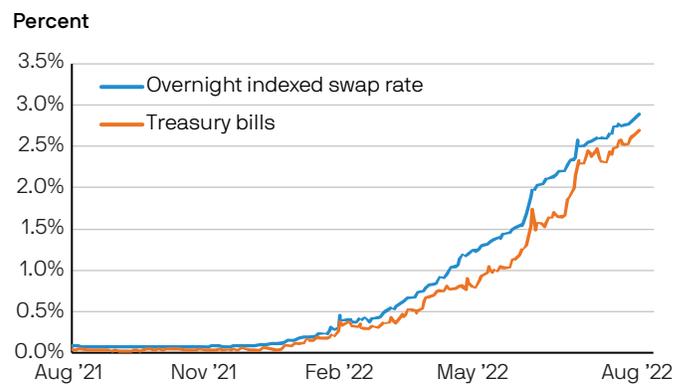
Government money market fund strategies in this environment hold at least half of their holdings in ON RRP, which is overnight repo, secured by U.S. Treasury debt collateral, facing the Federal Reserve Bank of New York (FRBNY) as the borrowing counterparty. Its current yield is the lower bound of the Fed Funds target range plus 5 bps. Even though there is over USD26 trillion of U.S. Treasuries outstanding, only a fraction of that has an overnight maturity on any given day.⁴⁰ Therefore, ON RRP is one of only two ways⁴¹ to invest trillions of U.S. dollars in overnight U.S. government risk on a daily basis, but its primary⁴² users are SEC-registered money market funds that are approved counterparties to the Fed. ON RRP is impervious to all but the most unfathomable adverse credit and rates scenarios. Unlike other fixed income investments, increased demand does not lower the yield, since the price is set directly by the Fed and not by the market.

OIS vs U.S. Treasury yield curve



Source: Bloomberg. July 2022.

U.S. 3 month OIS vs 3 month T-bills



Source: Bloomberg, J.P. Morgan Asset Management. August 22, 2022.

⁴⁰ U.S. T-bills only mature on Tuesdays and Thursdays each week with some adjustments for national holidays, while U.S. Treasury notes and bonds only mature on the 15th and the last day of each calendar month.

⁴¹ The other is bank reserves deposited at the Fed, which currently have a yield of the lower bound of the Fed Funds target range plus 15 bps. However, those are only available to U.S. regulated depository institutions, and as seen in the deposit column in the table on page 28, those institutions only pass through a small fraction of that yield to end customers on average.

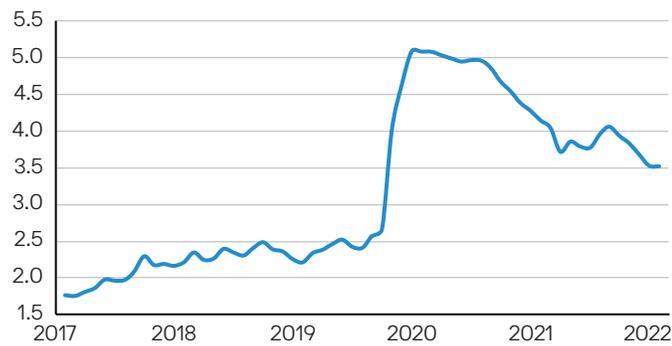
⁴² We qualify this statement with the word "primary" because ON RRP is technically available to MMFs, U.S. regulated banks and government sponsored enterprises (GSE). However, of those three, MMFs are the largest and most frequent user, and they are the easiest vehicle through which investors capitalize on the benefits of ON RRP as an end user.

Overly strong technicals in the U.S. Treasury bill market

Demand for 1 year and in Treasuries far outstrips current supply and is causing short Treasury yields to fall below where the market is pricing Fed hikes, as observed in the Overnight Index Swap (OIS) market. This is a direct result of 14 years of quantitative easing (QE) pulling longer-term rates investments into the front end. In fact, yields on 2 month T-bills are comparable to those of ON RRP even though the latter is an overnight investment. Government money market fund strategies do buy T-bills, but they only make up about a quarter to a third of the portfolio, unlike the front-end Treasury strategies, which are entirely subject to this market technical. Increased T-bill supply next year and quantitative tightening (QT) both will alleviate this yield gap, but it is likely to persist in 2022.

U.S. Treasury bills outstanding

USD, trillions



Source: Bloomberg, July 2022.

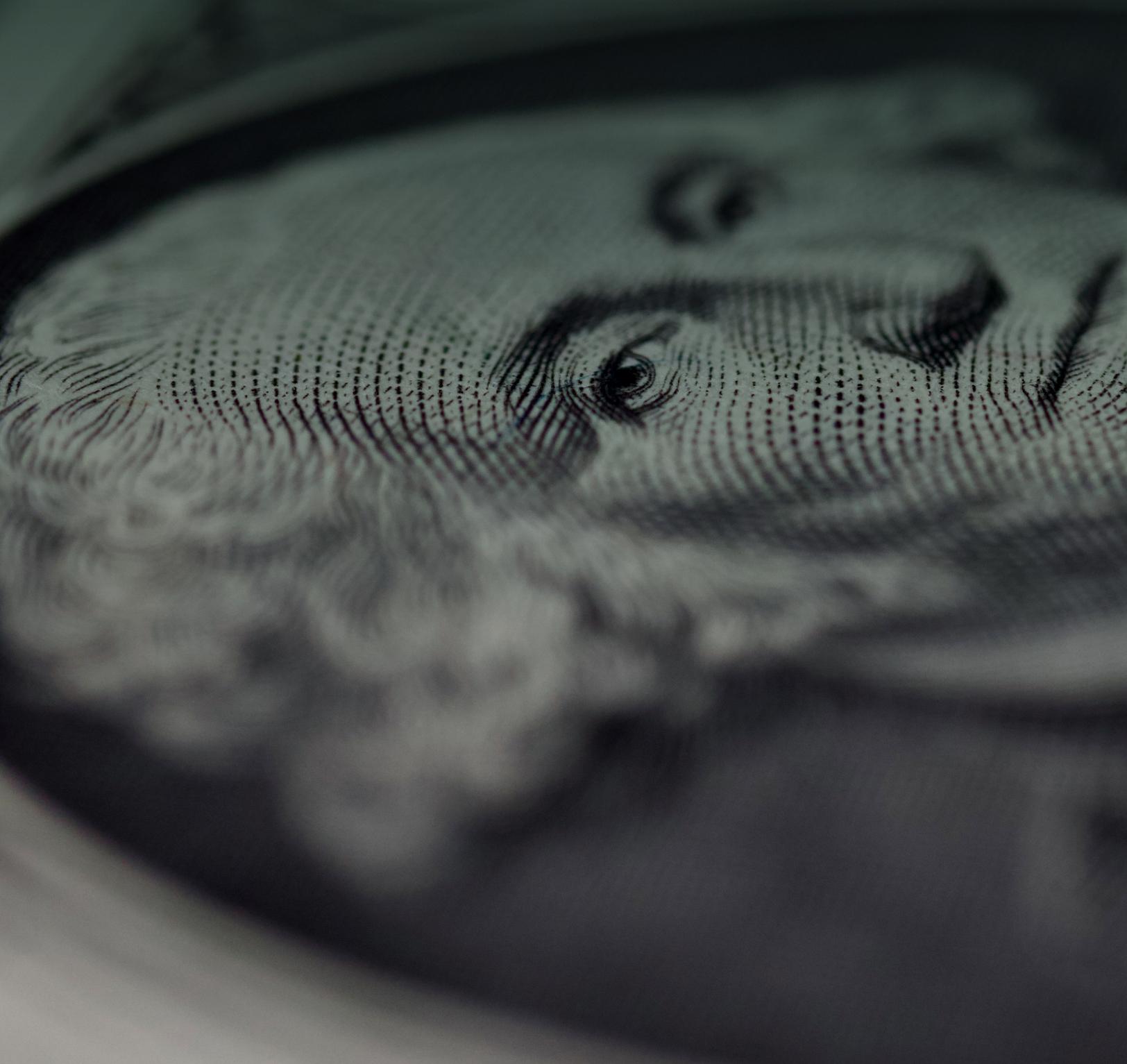


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Implications for the U.S. dollar

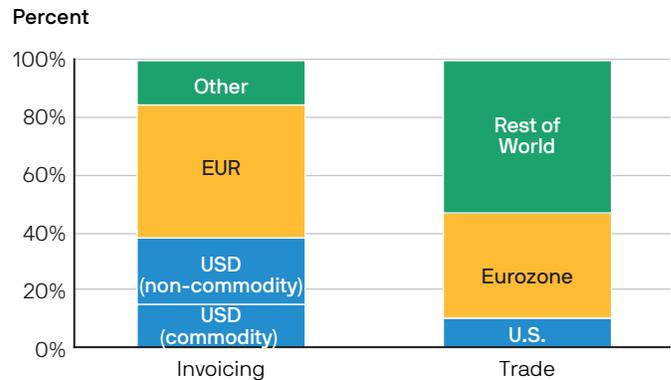


The post-Soviet era saw not only an extended period of relative geopolitical stability, but also saw a sharp rise in global trade.

The surge in globalization of the '90s and '00s underlined the importance of the dollar as a global currency and reinforced its status as the world's premier reserve asset. Today, the dollar accounts for 59% of FX reserves,⁴³ and 40% of international goods transactions are invoiced in dollars – around four times the U.S. share of global trade.⁴⁴

Even before Russia's invasion of Ukraine talk of "deglobalization" was rife and, with it, speculation over the dollar's long-term position as the world's main reserve and trading currency. While the pace of globalization has slowed, it has not reversed: Growth in global trade has roughly matched global economic growth for the last decade. Nevertheless, the war in Ukraine raises the specter of the world retreating somewhat into rival trading blocs. This may precipitate more strategic targeting of investment to secure access to scarce goods and lead to a modest uptick in the role of non-USD currencies. But to extrapolate this to a demise of the dollar's status is very wide of the mark.

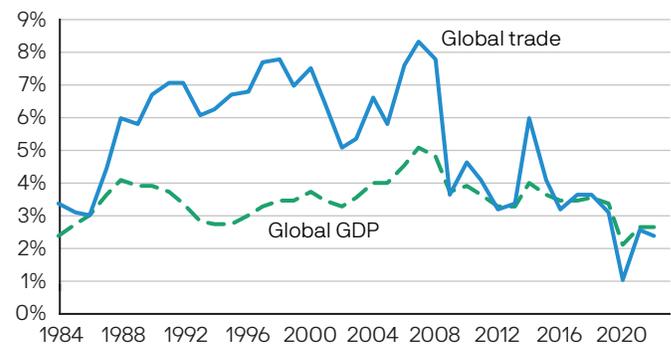
Shares of invoicing currency and global trade



Source: "Patterns in Invoicing Currency in Global Trade," Boz et al. (IMF), 2020.

Global GDP vs global trade

Percent, 5 year moving average



Source: Bloomberg, WEO, J.P. Morgan Asset Management. 2022.

⁴³ IMF Currency Composition of Official Foreign Exchange Reserves (COFER) for 1Q 2022.

⁴⁴ From the ECB: "The dominant role of the U.S. dollar as an invoicing currency in global trade is well established: roughly 40% of international trade transactions in goods are invoiced in dollars, a figure well above the U.S. share of global trade of just 10%." (Goldberg and Tille, 2008; Gopinath, 2015; Boz et al., 2020; Gopinath et al., 2020).

Putin’s miscalculation

Russia invaded Ukraine believing that its USD600 billion of reserves, plus surging commodity prices creating a healthy trade surplus, would finance the war. Putin believed he had reserves on tap, but at a keystroke in the back offices of the Fed and other global central banks those assets were put beyond his reach.

Freezing of reserves was a watershed moment: From a military perspective, Putin’s inability to finance his malign intentions handed a decisive early advantage to Ukraine. But from a financial and trade perspective, the implications may outlast even a prolonged conflict.

Freezing of central bank reserve accounts essentially weaponizes FX reserves. Countries with ambitions that run counter to the “Western order” may very well question their reliance on USD (and to a lesser extent EUR, CHF, etc.) as their reserve currency – perhaps preferring instead to hold much of their reserves in the currencies of nations that are aligned with, or at worst ambivalent to, their political or territorial intentions. Even “friendly” nations, as well as those without fixed alliances, may have pause for thought simply on the grounds of maintaining sovereignty over their assets.

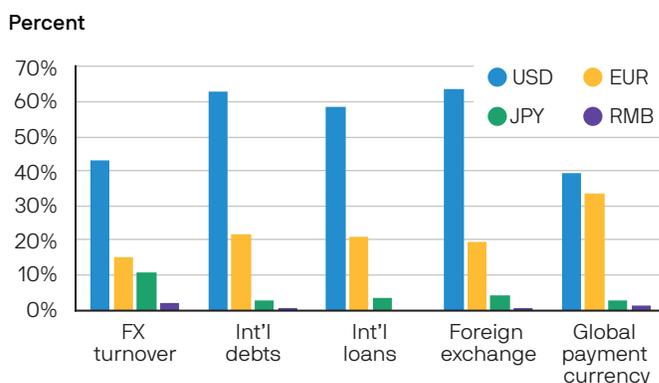
Still, we do not think that reserve assets will be further weaponized under normal circumstances. In the case of Russia’s reserves, freezing reserves proved to be an exceptionally effective sanction measure and is clearly a credible threat. However, it is not in the interest of the wider global economy to see a fracturing along currency lines – should this lead to higher overall reserves it may be inefficient in economic terms. While effective national “overcapitalization” creates a safety net, at the same time it ties up capital that might otherwise be productively invested.

⁴⁵ “The ‘reserve currency’ myth: the U.S. dollar’s current and future role in the world economy,” United States Study Centre.

Does this mean the dollar’s reserve status is about to be challenged?

The USD is the world’s preeminent reserve currency and for the last 70-80 years has appeared unassailable. However, history shows that reserve currencies do indeed come and go. Reserve status is an effect, not a cause, of a currency’s dominant role in global trade and financial flows.⁴⁵ It would be naive to declare that the dollar will remain the world’s reserve asset in perpetuity, but for now the institutional strength, convertibility, liquidity and legal frameworks supporting USD are unrivaled.

Share of currencies in the International Monetary System



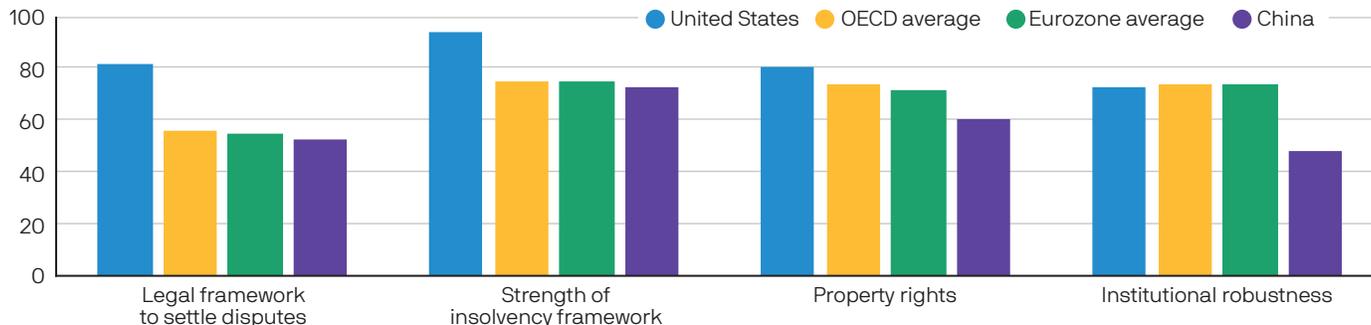
Source: Eichengreen & Xia, IMF, 2018.

History of reserve currencies

Rome	1st century BC – 4th century AD
Byzantine empire	5th century
Arabian Dinar	7th to 10th centuries
Florence	13th to 15th centuries
Portugal	1450 to 1530
Iberian Union	1530 to 1640
Netherlands	1640 to 1720
France	1720 to 1815
UK	1815 to 1920
U.S.	1920 -

Trade ecosystems

Score (100 = stronger)



Source: World Economic Forum, J.P. Morgan Asset Management. 2022.

While it is certainly the case that the freezing of Russia's assets will intensify the interest in an alternative to the dollar, there are significant practical hurdles. Convertibility and liquidity are the first practical constraints, and few currencies outside those of the G10 countries – which have a world view broadly aligned to the U.S. – could meet these criteria. Secondly, contract law and property rights are essential to a trade ecosystem based around a currency where, in theory, disputes are resolved under its legal framework. And finally, the strength of institutions to guarantee liquidity and enforce legal precedent are critical underpinnings to a trade network.

The continued safe haven status of the dollar and its counter-cyclical suggest that, in relative terms at least, institutional strength in the U.S. is favorable. Moreover, the contenders to USD that are sometimes mooted, notably Chinese renminbi or a cryptocurrency of some sort, lack either full convertibility, transparent legal frameworks or both – rendering them unlikely major reserve assets, at least in their current form.

Could FDI be weaponized to build new currency networks?

Despite the desire, in some quarters, for an alternative reserve currency, practical constraints probably prevent any emerging naturally over the short run. But there

is intent in a number of cases to create a non-USD financial system, the clearest of these being Russia's SPFS and China's CIPS, both of which create alternative payment and settlement systems to SWIFT. But while this may increase liquidity and convertibility within a cooperative bloc, it still faces the issue of interfacing to the wider global system. Not least as both the PATRIOT Act and more recent anti-money laundering legislation effectively police the perimeter of the dollarized world, well beyond the geographical borders of the U.S. itself.⁴⁶

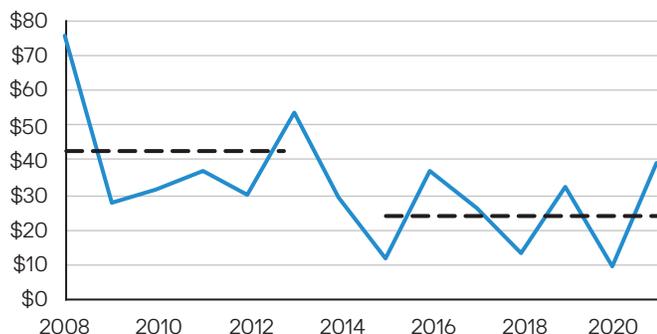
Another means of exerting influence – as well as securing the supply of scarce goods and commodities – can be national investment. China has a significant investment program in regions such as Africa, linked to the Belt and Road Initiative, but the U.S. remains, overall, a far larger provider of FDI. The degree to which FDI is allocated based on aid, access or profitability varies from country to country but U.S. income from FDI far outstrips that of other national FDI programs.

Broadly, the profit incentive for FDI is strong across OECD nations, with allocation of aid a further consideration. However, for other nations or regions – particularly those wishing to establish a non-USD trade ecosystem – the profit incentive may be less material, and the use of FDI to exert influence may be greater.

⁴⁶ "Extraterritorial Application of the USA PATRIOT Act and Related Regimes: Issues for European Banks Operating in the United States," Graves & Ganguli; "The Anti-Money Laundering Act of 2020: 5 Key Takeaways," Latham & Watkins.

FDI inflows to the Russian Federation

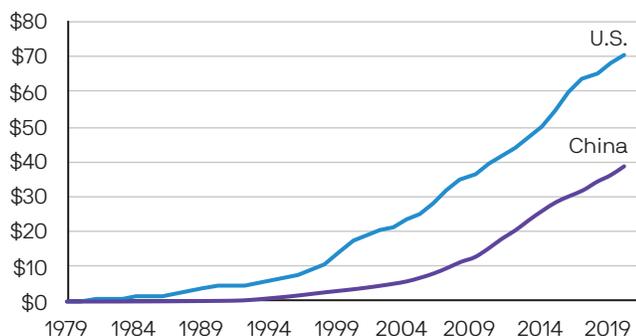
USD, billions



Source: UNCTAD, J.P. Morgan Asset Management. 2021. Dotted lines reflect averages.

U.S. vs China foreign direct investment net inflows

USD trillions, cumulative net FDI inflows



Source: World Bank, J.P. Morgan Asset Management. 2020.

Even if FDI is not weaponized, there are already signs that it has become politicized. Following Russia's annexation of Crimea in 2014, FDI inflows roughly halved and following the Ukraine invasion it is likely that any remaining flows have dried up altogether. China was an early recipient of substantial FDI flow, which has gradually dried up as the country has become more assertive on the world stage. But even accounting for the large flows since the 1970's, the cumulative FDI inflow to the U.S. is twice that of China over the last four decades. On balance, even with substantial strategically targeted FDI, it is likely to be some time before trading networks that are entirely independent of the dollar can be credibly established.

So, does this mean an inexorably stronger dollar?

Reserve status does not automatically translate to currency strength. Since 1971 the dollar has lost 86% of its value in nominal terms, and over the same period the real trade-weighted dollar has gone through a number of cycles rather than followed a monotonic upward trajectory. In our view, demand for USD will continue to be driven by traditional factors such as growth and rate differentials rather than perceptions of reserve status – not least as there are currently no serious pretenders to the dollar's throne despite the desire for a new reserve asset in some quarters.

Nevertheless, there is reason to assume that currencies such as RMB and other potential reserve assets could see some support over the near and medium term. Reserve manager interest in RMB continues to grow⁴⁷ and currently actual allocations to RMB are just 2.88% despite the currency having a 12.28% weight in the IMF's SDR basket. Even without a challenge to the dollar's status coming from the renminbi, there is ample reason to expect continued demand for the Chinese currency, and any emergence of an RMB-denominated trade ecosystem could fuel at least some further speculative demand at the margin.

⁴⁷ UBS reserve manager survey.



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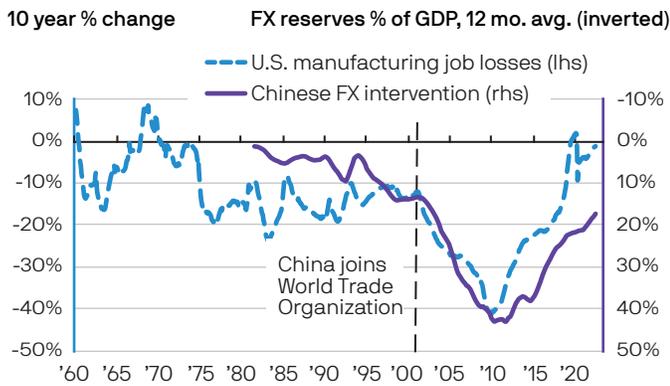
Epilogue: I come to bury globalization, not to praise it

Globalization should have been accompanied
by more protections for communities that lost
out in the process

One view of globalization which I have written about before goes like this:

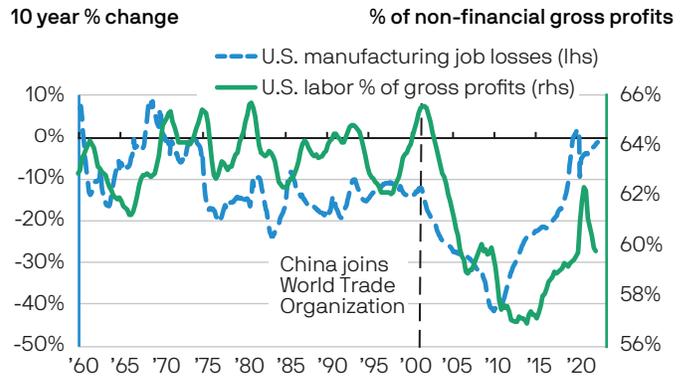
- In 2001, the West allowed China into the World Trade Organization...
- after which China launched a massive and unprecedented currency intervention to prevent appreciation and boost its manufacturing and export shares...
- which allowed China to mount the greatest economic boom in the post-war era...
- flooding the U.S. with cheap goods (the U.S. import price index from China is at the same level as in 2004)...
- but which contributed significantly to an acceleration of U.S. manufacturing job losses...
- and a collapse in the U.S. of the share of gross profits accruing to labor vs capital...
- a trend whose aftershocks include the opioid epidemic, rising polarization and growing wealth inequality...
- and the emergence of political factions in the U.S. and Europe which favor isolationism and a profound distaste for a liberal world order. A recent casualty: a populist coup which forced Draghi, a paragon of European integration and risk-sharing, to resign in Italy

After China joins the WTO, its FX intervention rises and U.S. manufacturing job losses accelerate...



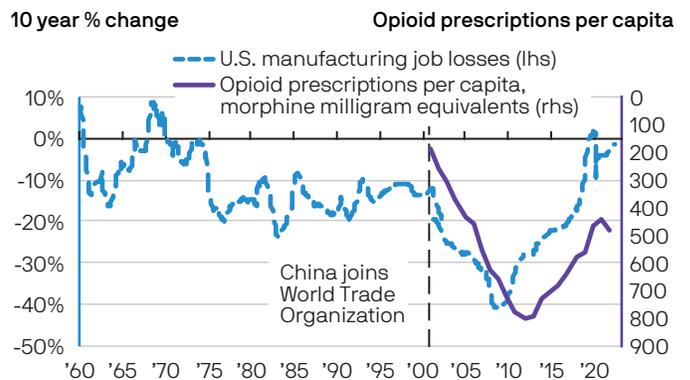
Source: BLS, IMF, People's Bank of China, J.P. Morgan Asset Management. July 2022.

...coinciding with a sharp decline in U.S. labor's share of corporate profits



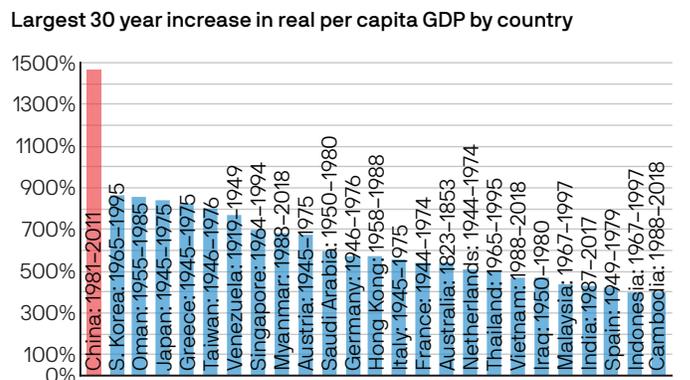
Source: BLS, BEA, J.P. Morgan Asset Management. July 2022.

...and a rise in U.S. opioid use



Source: BLS, Stanford SIEPR, DEA, J.P. Morgan Asset Management. July 2022.

China's economic transformation in context



Source: J.P. Morgan Asset Management, University of Groningen, Conference Board. 2021.

Important information

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