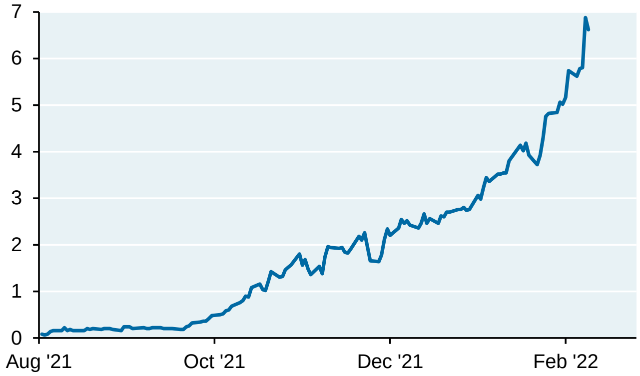
Topics: Tracking the market risk unwind; Supply chain update; Ukraine; Invasion of the COVID Body Snatchers

Global markets have had to digest a lot of bad news in a very short period:

- The latest inflation data continue to decimate the "inflation is purely transitory" theory[1]. After pricing in less than one Fed hike as of last September, markets and Fed watchers now expect between 6 and 7 hikes over the next year, with some arguing for a 50 basis point move and not just 25
- Europe's energy dependence on Russia[2] could cause another surge in its electricity and other energy costs if Russia were to invade the Ukraine, in which case the US might launch a very wide array of sanctions
- US supply chains have not resolved themselves as fast as some market participants hoped (see Appendix)

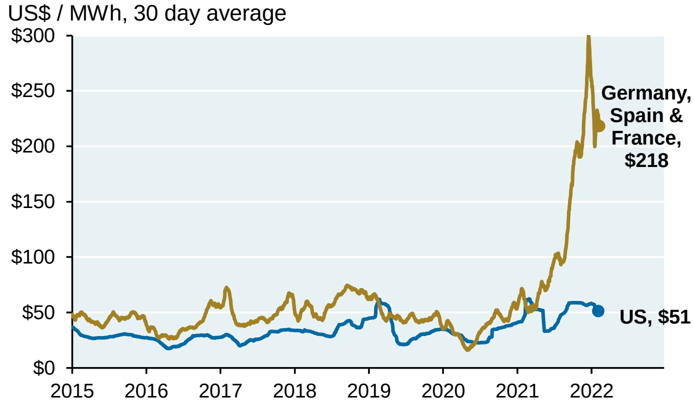
This is a lot for markets to digest in a short period; YTD, global equity indices are down 3%-10% and most global fixed income indices are down 3%-4%. In this note, we examine market risk unwind measures, the likely ability of corporate revenues to keep pace with rising input costs, an update on supply chains, my shrinking network of trusted research contacts and some thoughts on the Ukraine and the road not taken.

Market implied Fed hikes, derived from futures market
Number of expected 25 bp hikes over the next 12 months



Source: Bloomberg. February 11, 2022.

US vs Europe: Electricity prices
US$ / MWh, 30 day average



Source: Bloomberg. February 13, 2022.

If you missed it, we published a piece on cryptocurrencies and blockchains called the "Maltese Falcoin" on February 3. Press reactions focused almost solely on the store of value topic and not on the arguably more interesting question of whether widely discussed use cases for blockchains will end up being satisfied by stablecoins (perhaps issued by Central Banks), and by permissioned, private blockchains that also have little to no implications for directional crypto valuations. Since our piece came out: the SEC is reportedly negotiating a $100 million fine with DeFi lender BlockFi for selling unregistered securities to customers, and there's more evidence that NFT buyers may be able to transact with fiat currency instead of having to buy Ethereum tokens.

[1] **Inflation is not just a US phenomenon**. From the JP Morgan Economics Research Global Data Watch, February 11, 2022: "Across countries, the sharp rise in core inflation in the Euro area and EM Asia (ex. China and India) is most notable. An acceleration in food and services price inflation points to pressures extending well beyond items closely linked to the pandemic. US measures of inflation breadth have moved substantially higher and align with evidence of rising wage inflation".

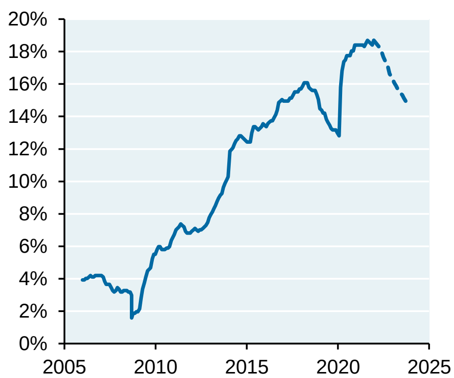
[2] As we illustrate each year in our Energy paper, **Europe imports roughly the same amount of oil and gas from Russia as it produces for itself**. There is perhaps no greater difference between Europe and the US than the question of energy dependence.

Let's start with some risk unwind measures. The first chart shows an estimate from JP Morgan Global Market Strategy Research on the large overweight position that investors hold in credit that built up over the last decade[3]. This can be laid at the doorstep of the Fed for engineering the longest period of negative real rates since the 1860's. Unfortunately, the unwind of the credit overweight has a long way to go.

The equity repricing is further along. The second chart shows the decline in stocks heavily owned by retail investors, whose returns are now converging back to the S&P 500. As for the S&P, its forward P/E valuations have declined from peak levels along negative 10 year real interest rates; although to be clear, valuations are still high in any historical context. The fourth chart shows something even more striking: the average stock in the NASDAQ is now down 42% from its peak, with many down 70% or more. The fifth chart shows other low water marks: I'm unsurprised that the SPAC market and its gaggle of adversely selected IPOs marked the beginning of the end for overpriced stocks, and for repricing of renewable and fintech stocks as well.

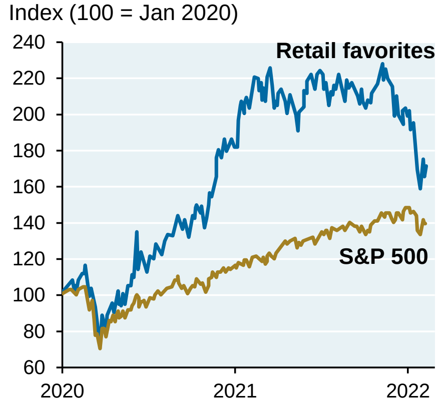
If we do get a 50 bps Fed hike in March and some additional equity market capitulation, that could represent an attractive equity market entry point. We're getting closer to one now even without that.

Implied investor credit overweight
Percent



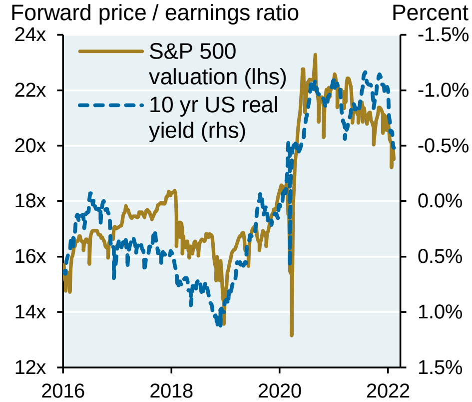
Source: JPM Flows & Liquidity Report. Feb 2022.

Retail favorites performance
Index (100 = Jan 2020)



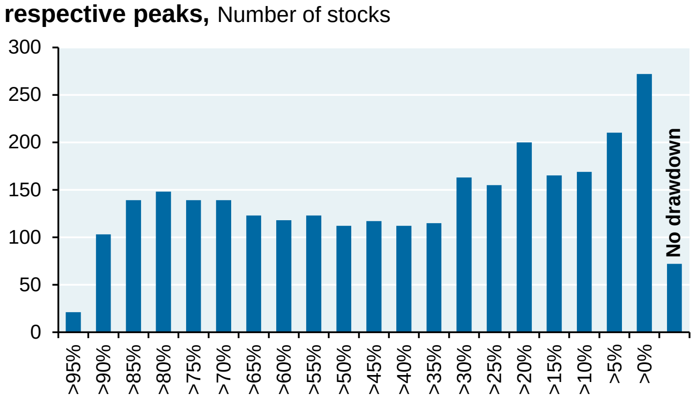
Source: JPM Flows & Liquidity Report. Feb 2022.

S&P 500 valuation vs real rates
Forward price / earnings ratio
Percent



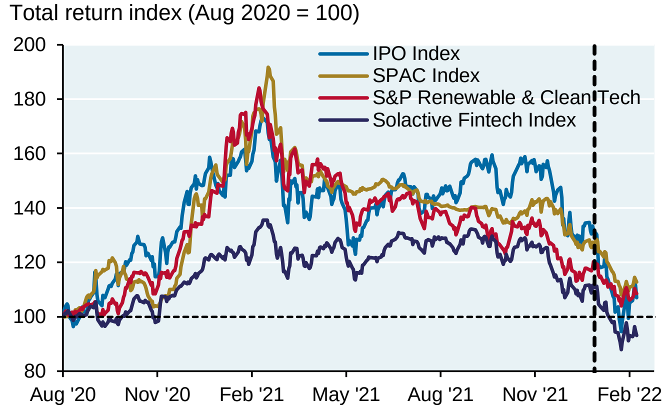
Source: GS. February 11, 2022.

Drawdowns of individual NASDAQ stocks from their respective peaks, Number of stocks



Source: Bloomberg, JPMAM. February 11, 2022. N = 2915.

Weak links crumbling
Total return index (Aug 2020 = 100)



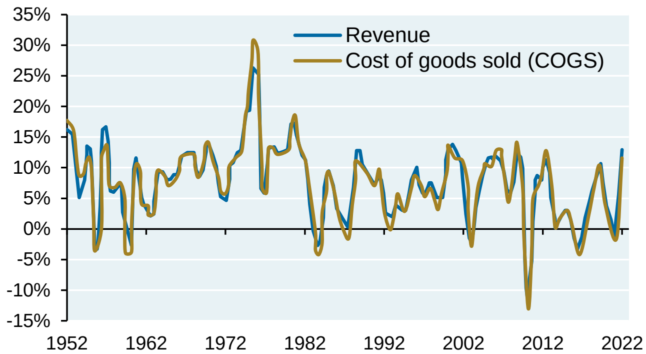
Source: Bloomberg. February 11, 2022.

[3] "*The credit unwind*", Flows & Liquidity Report, JP Morgan Global Markets Strategy, Feb 9, 2022

The good news for investors: **the impact of rising input costs on profits may be overstated**. As shown below in some interesting work from Empirical Research, there is almost a 1:1 connection between rising costs of goods sold (which includes most labor costs) and rising revenues over the last 70 years. The link between rising SG&A expenses and revenues is strong as well, although not as tight as the link with COGS. What does this all mean? **Rising costs by themselves do not result in lower margins and poor equity market returns**; from 1987 to 2022, equity market returns were almost identical regardless of the level of median wage growth[4].

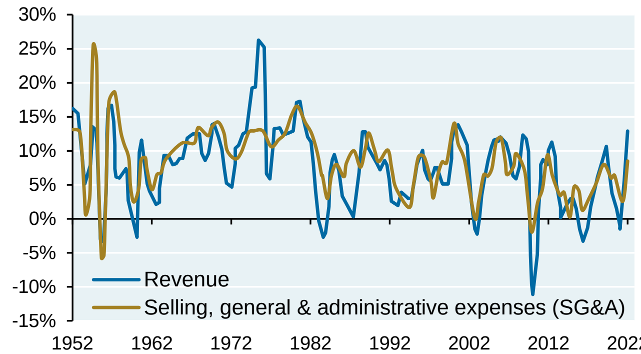
The more important question is whether a recession is coming, which is way more predictive of a deeper sustained rout in equity markets. **And on that front, I do not see a recession in the cards for 2022**. I still think US real GDP growth will be ~3% this year as production rises to match higher levels of consumption. The latest capital spending surveys still point in this direction.

Annual change in S&P 500 revenue and COGS
y/y % change



Source: Empirical Research. Feb 9, 2022. Ex. financials, real estate & utilities.

Annual change in S&P 500 revenue and SG&A
y/y % change

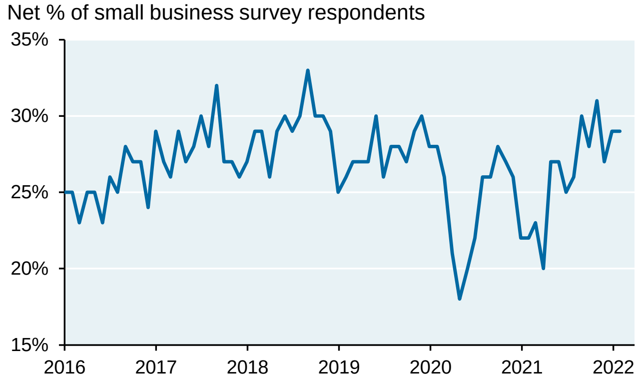


Source: Empirical Research. Feb 9, 2022. Ex. financials, real estate & utilities.

US Business Roundtable CEO capital spending survey
Index (50+ = expansionary)

Source: Bloomberg. Q4 2021.

US small businesses planning to increase capex
Net % of small business survey respondents



Source: Bloomberg, NFIB. January 2022.

Obviously, a Ukraine invasion could interrupt a capital spending recovery and destabilize markets. A lot would depend on what sanctions are adopted. Here are the kind of sanctions reportedly contemplated by the US:

- Export controls to prevent countries from selling products with US content to Russia (Huawei penalty)
- Adding Russian companies and individuals to a "prohibited transactions list" with US individuals, companies and specifically banks
- Prohibitions on US securities firms from underwriting or transacting in Russian sovereign debt
- Blocking Russia from transacting in the Swift payments network
- Delaying the Nord Stream 2 pipeline

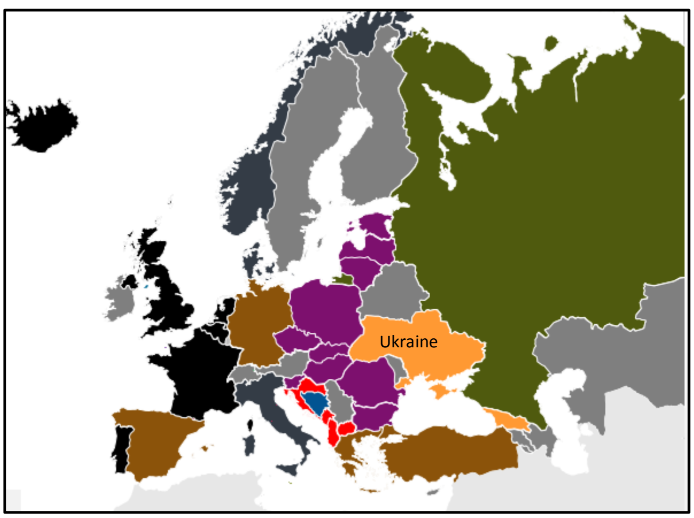
[4] See Exhibit 22 in "*The Yield Curve and the Equity Market*", Empirical Research Partners, February 11, 2022

The full imposition of this sanctions list could be very disruptive for markets, at least in the short term, given likely Russian retaliation via energy supplies. I'm dubious of Europe's ability to withstand a protracted two-sided sanctions and trade war with Russia given its energy dependence cited earlier.

On the Ukraine itself, last weekend I reread John Mearsheimer's essay from 2014 in Foreign Affairs magazine, entitled "*Why the Ukraine Crisis Is the West's Fault: The Liberal Delusions That Provoked Putin*"[5]. The piece reviews how we got here and what policy options might have been chosen instead.

The story begins with the Clinton Administration's NATO enlargement in the 1990's, an expansion of more territory than French, German and Italian land mass combined. Mearsheimer cites George Kennan, an architect of the US post-war policy of Soviet containment, on NATO's enlargement in 1998: "I think the Russians will gradually react quite adversely and it will affect their policies. I think it's a tragic mistake. There was no reason for this whatsoever. No one was threatening anyone else". Ten years later in 2008, NATO leaders announced that "Georgia and Ukraine would become members of NATO". The Russians made clear at the time that red lines had been crossed, which the US and Europeans mostly ignored. In 2013, the president of a US-bankrolled organization working in the Ukraine to draw it into the Western orbit wrote in the Washington Post, "Ukraine's choice to join Europe will accelerate the demise of the ideology of Russian imperialism that Putin represents. Russians, too, face a choice, and Putin may find himself on the losing end not just abroad but within Russia itself." These predictions have not aged well.

Since the 1990's, there has been a battle between Liberalism and Realism in Western foreign policy circles on the Ukraine. Depending upon what happens now to the Ukraine, which the West has made clear it will not defend militarily[6], the Realists might turn out to be right. That's why Mearsheimer concluded in his essay that some sort of "Finlandization" of the Ukraine would be a better outcome for all sides.



NATO enlargement
Black: Original members (1949)
Brown: 1950-1980
Purple: 1999-2004
Red: 2009-2020
Blue: NATO Membership Action Plan
Orange: "Intensified NATO dialogue"
Gray: not in NATO

[5] John Mearsheimer is a Distinguished Service Professor of Political Science at the University of Chicago

[6] When the Ukraine abandoned its nuclear weapons 30 years ago, the **Budapest Memorandum** offered Ukraine security assurances against the future use of force by the US, UK and Russia. But the Memorandum only required signatories to raise any issues with the UN Security Council; it was not a defense treaty and the US has stated in the past that it is not legally binding.

Invasion of the COVID Body Snatchers: another one bites the dust

What should I do when a research firm whose work I respect, value and pay for ventures into irresponsible and poorly vetted COVID commentary? Like the 1956 film *Invasion of the Body Snatchers*, seemingly normal individuals start behaving strangely and all of a sudden, they become pod people. The latest episode involves a firm whose work I often cite. In a recent public note and email exchange, one of its principal authors argued the following:

[A] COVID vaccines may not work that well. Yes, data from health agencies across the developed world show much higher hospitalization, ICU and mortality outcomes for unvaccinated people. But this data is unreliable, mostly since unvaccinated cohorts are not comparable to vaccinated ones. Why? A large number of unvaccinated people are frail, sicker individuals with cancer and heart conditions that prevent them from being vaccinated even if they want to be!

- There is so much that's wrong here. First, COVID vaccines work very well in the elderly, the sick and most immunocompromised people; that's why there are very few for whom COVID vaccines are not recommended
- Second, their description of the unvaccinated is completely off-base. The unvaccinated in the US tend to be younger people whose decisions are driven by lack of trust in the gov't, lack of trust in vaccines, the belief that vaccines are unnecessary and concerns about myocarditis and other side effects[7]. In the UK, people are vaccinated and boosted in order of their age and vulnerability (UK vaccines are solely available through the NHS). As a result, the UK vaccinated cohort is *more* frail and elderly than the unvaccinated
- My contacts at the Scripps Institute for biomedical sciences described their assertions as "patently false and unsupported by data", and contacts at the La Jolla Institute of Immunology described them as "silly/bogus"

[B] Difficulty in measuring flu vaccine efficacy is also proof that COVID vaccine efficacy figures are not reliable. The healthier two thirds of a typical retirement home get the flu vaccine while the weakest third are told by their doctors to not take the flu vaccine. As a result, deaths are disproportionally higher in the weak third than in the healthier two thirds, rendering flu vaccine efficacy measures much less meaningful. Same for COVID!

- Yikes. First of all, doctors generally do recommend the flu vaccine for frailer adults. It does not provoke a strong antibody response (in part since it has no adjuvant), and it's extremely well tolerated by the aged and frail
- Second, according to a Professor of Epidemiology I contacted at Harvard's School of Public Health, flu and COVID vaccine efficacy error terms are not comparable. Flu vaccine efficacy can be difficult to measure[8]. But the same is much less true for COVID; for reasons related to genetic testing and identifiable variants, COVID vaccine efficacy studies yield results that are very similar to more rigorous randomized control trials and observational studies with strict controls. Bottom line: a "flippant and facile" comparison with little basis in actual scientific data

[C] Why are COVID mortality rates so much higher in the developed world than in the developing world whose vaccination rates are so much lower? Another sign that COVID vaccines don't work well!

- If you can use Google, it would take you all of 5 minutes to see why this comment is so poorly informed, and callous as well. Overall death rates in many EM nations have been *much* higher than normal. According to most demographers, these elevated death rates are picking up COVID mortality that country health agencies are not properly identifying. See charts on the following page for estimates of actual COVID mortality levels

So, what will I do with their research now? I will still read it since their work is generally good. That said, my prior unquestioned confidence in their work is gone, and I will do a lot more checking and verifying. As for any personal relationships with their researchers, those might be gone too. mRNA vaccines are estimated to have saved one million lives in the US in 2021[9], and I trust the people who work on such estimates a lot more than people creating their own narratives as they go along. As I get older, my personal world is shrinking. I distance myself from people

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[7] None of these sources cite pre-existing medical conditions as a major reason why people are unvaccinated:
https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-profile-of-the-unvaccinated/
https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/sociodemographic-factors-covid19-vaccination.html
https://www.census.gov/library/stories/2021/12/who-are-the-adults-not-vaccinated-against-covid.html
https://www.washingtonpost.com/politics/2021/11/16/party-divide-vaccination/

[8] "*Lessons from vaccine effectiveness and impact studies*", Lipsitch (Harvard) et al, Int'l Journal of Epidemiology, 2016

[9] "*The US COVID-19 Vaccination Program at One Year: How Many Deaths and Hospitalizations Were Averted?*", Commonwealth Fund, Eric Schneider (M.D., M.Sc.) December 2021

on the far right and the far left, and now I distance myself from people who use stylized pseudo-facts and sloppy research to push a given agenda. Life is too short for that.

Michael Cembalest
JP Morgan Asset Management

Estimating COVID mortality

In many countries, strained healthcare systems are unable to accurately track COVID deaths. More than 100 countries do not collect reliable statistics on expected or actual deaths at all, or do not release them in a timely manner. Some demographers estimate COVID deaths by looking at deaths from all causes vs trend, rather than just at reported COVID deaths. The first chart compares the two; the farther above the line a country is, the more its excess deaths in 2020 exceeded reported COVID deaths. Many of the highest outliers are EM countries.

The second set of charts shows estimates of COVID mortality derived from a machine learning model. Again, estimated COVID death levels for lower middle income countries are much higher than reported ones, despite the fact that many of these countries have average population ages that are far below US and European levels (a key factor affecting COVID mortality). No approach is perfect, and demographers argue over models; but they all agree that developing country COVID deaths are massively underreported.

So, if you ask why the EM world has much lower death rates despite less vaccination, all that shows is a lack of understanding of basic pandemic research, even now two full years after the pandemic began.

Excess total mortality vs reported COVID mortality, Feb 2020 - Dec 2020
Excess mortality per mm vs 2015 - 2019 trend

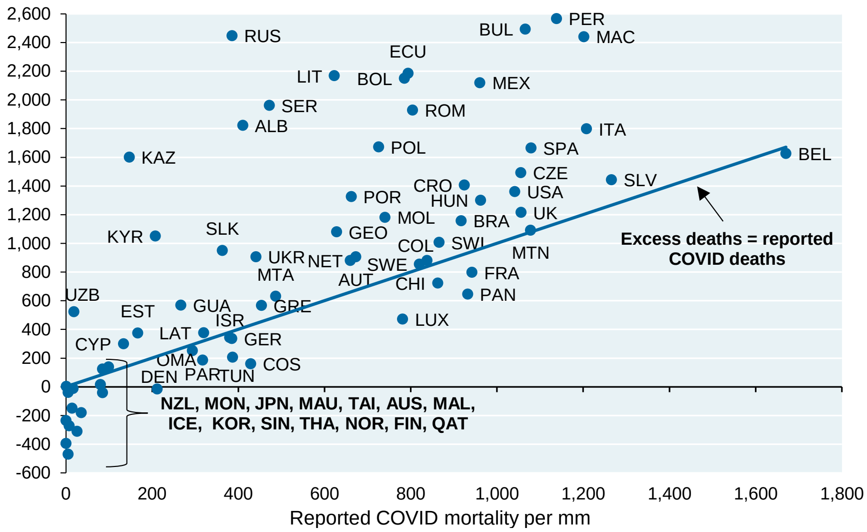
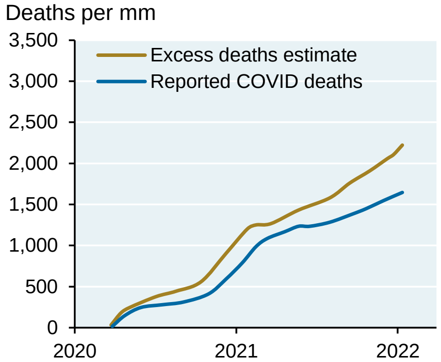


Chart sources:

"Exploring the Gap between Excess Mortality and COVID Deaths in 67 Countries", San Marchi (University of Bologna) et al, JAMA Network Global Health Research Letter, July 2021

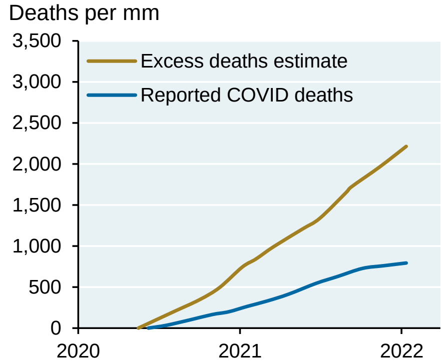
"The pandemic's true death toll: millions more than official counts", Nature, January 2022

High income countries
Deaths per mm



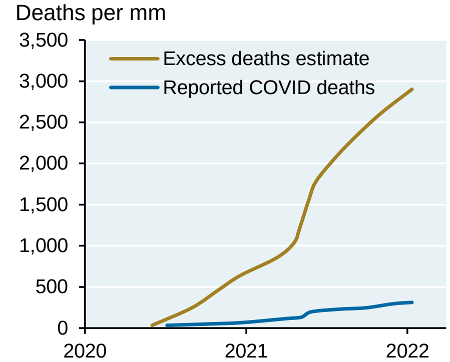
Source: The Economist, Nature. January 18, 2022.

Upper middle income countries
Deaths per mm



Source: The Economist, Nature. January 18, 2022.

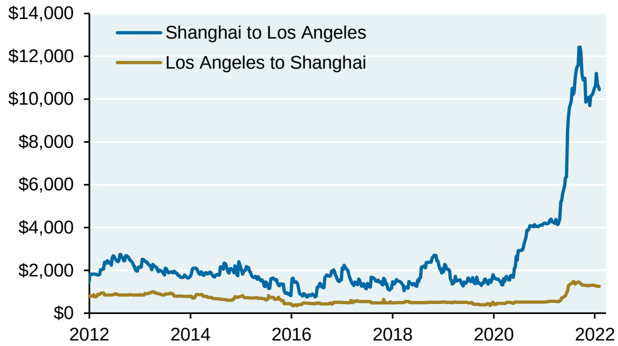
Lower middle income countries
Deaths per mm



Source: The Economist, Nature. January 18, 2022.

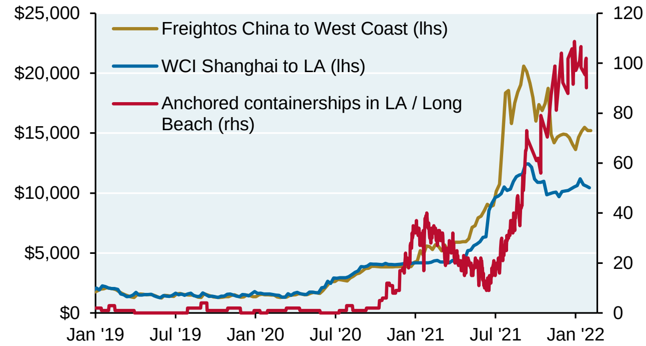
Appendix: supply chain conditions still very tight, some signs of modest improvement from peak levels

Container freight rate between LA and Shanghai
US$ / 40ft box



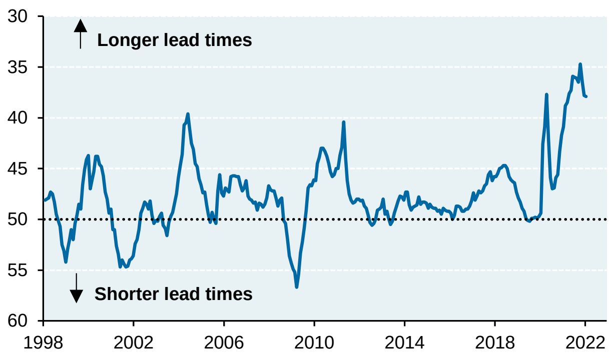
Source: Bloomberg. February 10, 2022.

Container freight rate and anchored containerships
Freight rate, US$ / 40ft box — Number of containerships



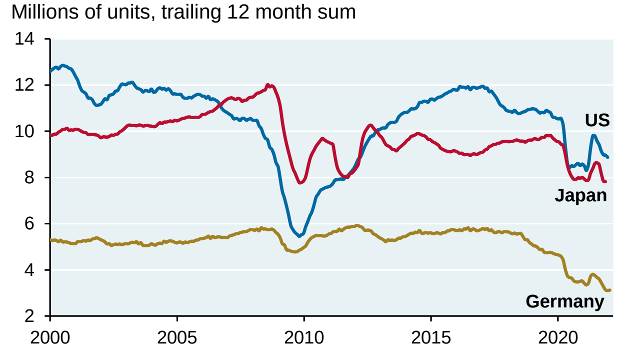
Source: Cornerstone Macro, Bloomberg. February 13, 2022.

Global manufacturing delivery times
Index



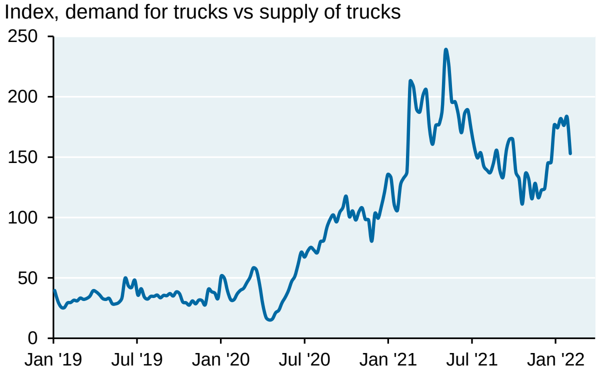
Source: Bloomberg, JP Morgan Economic Research. January 2022.

Auto production by region
Millions of units, trailing 12 month sum



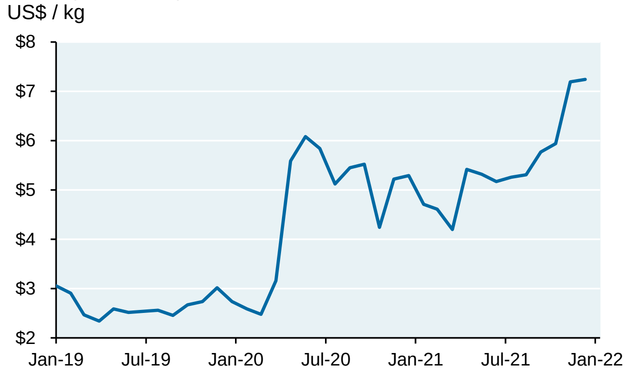
Source: Automotive News, regional automobile manufacturers associations, JPMAM. January 2022.

Truckstop market demand index
Index, demand for trucks vs supply of trucks



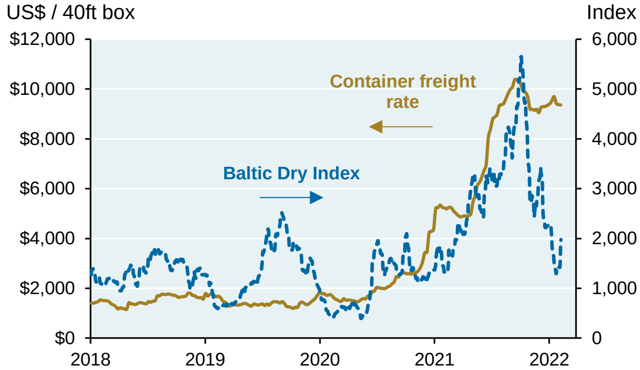
Source: Bloomberg. February 4, 2022.

Average air freight rates
US$ / kg



Source: Bloomberg, JPMAM. December 2021.

Shipping rates
US$ / 40ft box — Index



Source: Bloomberg. February 11, 2022.

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