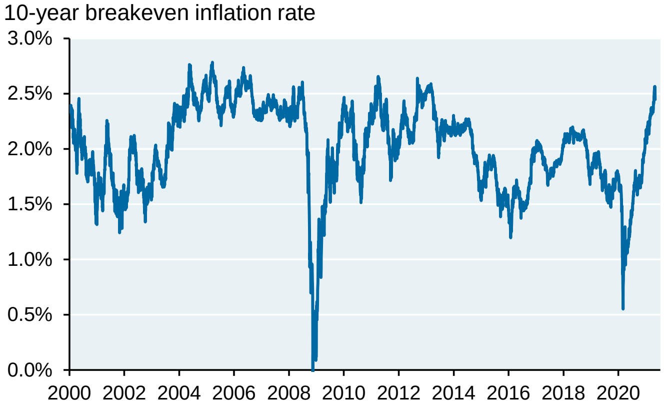
Topic: Inflation. Duh!

In February, I discussed shrinking US excess capacity and fiscal stimulus. In March, I wrote a piece called "*Interest Rate Pretzels*" on the contortions people gyrate into to convince themselves that rising inflation would not be a problem for equities. My conclusion at the time: expectations for permanently low inflation and rates drove the rise in P/E multiples in recent years, so a reversal in inflation and rate expectations poses a risk to them[1]. Since then, US equity markets hit a plateau as inflation expectations reached their highest levels in a decade.

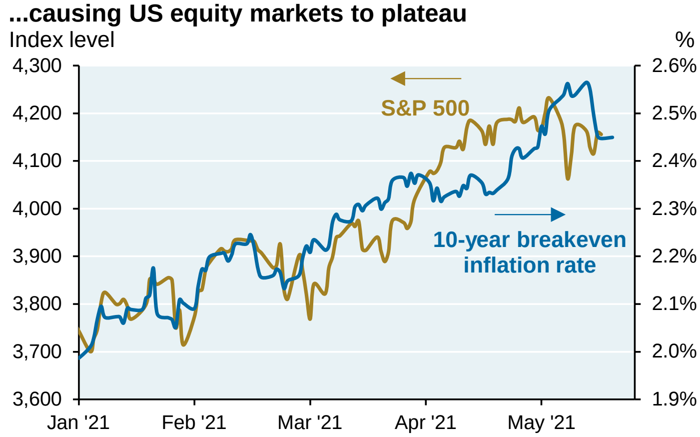
This note addresses questions we're receiving on markets, inflation, rates and taxes, and concludes with comments on COVID and India. The next *Eye on the Market* will be our biannual review of Private Equity. If you missed it, we released our 11th annual Energy paper "*Future Shock*" in early May which you can access **here**.

Inflation expectations at their highest levels in a decade...
10-year breakeven inflation rate



Source: Bloomberg. May 21, 2021.

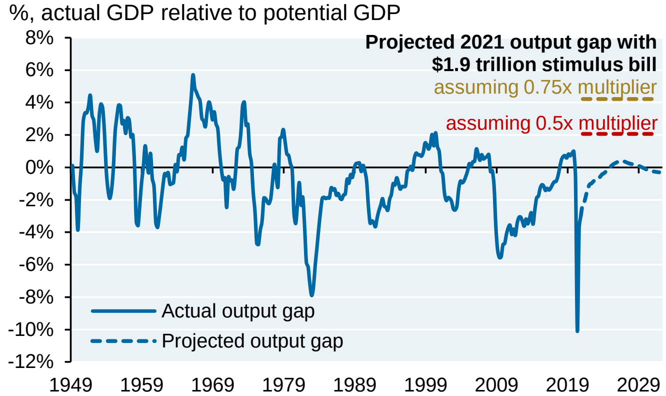
...causing US equity markets to plateau
Index level



Source: Bloomberg. May 21, 2021.

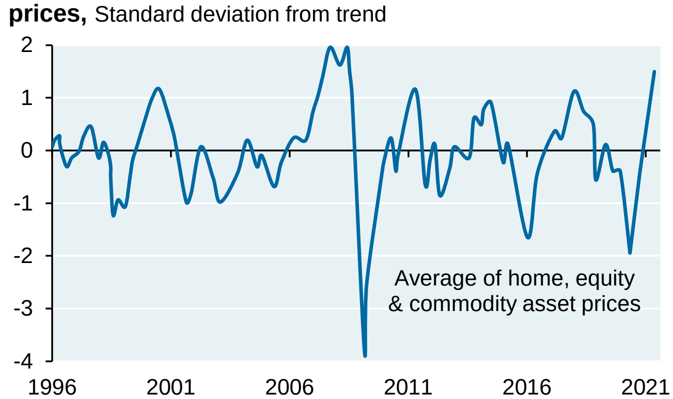
The "Larry Summers" chart: as Larry pointed out in February in the Washington Post, $2 trillion in additional stimulus could eliminate the output gap and push growth 2% above potential for the first time in decades, which is a dilemma for the Fed given its zero rate stance. Economist Ray Fair at Yale published a paper this month using an econometric approach to the $1.9 trillion American Rescue Plan (already passed last March) and accumulated housing/equity wealth gains, and found that inflation as defined by the private non-farm deflator could rise from its pre-COVID average of 1.75% to 4%-5% in mid-2022 with a chance of even higher numbers[2]. The Fed also has to watch potentially destabilizing above-trend asset prices, illustrated in the 2nd chart.

US output gap (spare capacity) and stimulus
%, actual GDP relative to potential GDP



Source: CBO, JPMAM. Q4 2020.

Above-trend global home, equity and commodity asset prices, Standard deviation from trend



Source: J.P. Morgan Economic Research, Global Data Watch. May 7, 2021.

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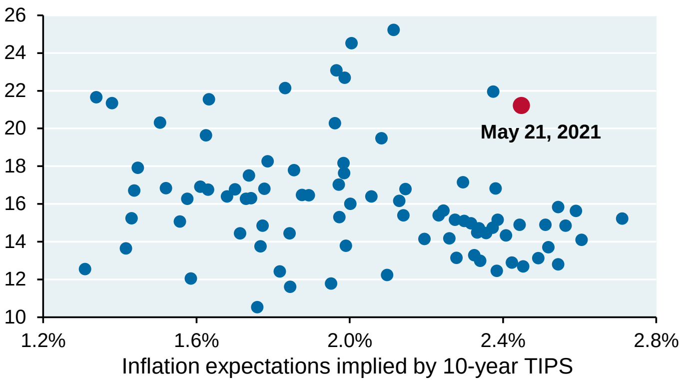
[1] The word "**duh**" first appeared in the early 1940's in both Merrie Melodies cartoons and Archie comics.

[2] "*What Do Price Equations Say About Future Inflation?*", Ray Fair (Yale), May 2021 (forthcoming in Bus. Economics)

[1] "A lot of sell side strategists say inflation is great for stocks. Should I believe them?"

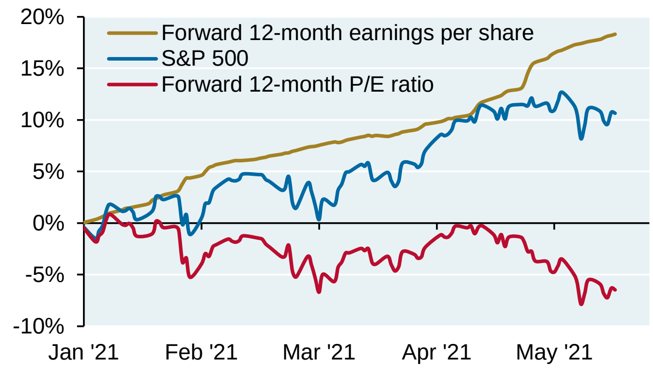
The data is inconclusive. The first chart looks at price-earnings multiples for the S&P 500 as a function of inflation expectations. Very high multiples have generally coincided with periods of very low inflation expectations. Today's dot is an exception to this rule. We wrote in the 2021 Outlook that US equities would likely rise, but at a pace slower than earnings given how high multiples are. **That's what has happened so far this year,** as shown in the second chart on rising equity markets, rising earnings and contracting multiples.

Inflation and US equity valuations since 2000
12-month forward P/E ratio



Source: Bloomberg, JPMAM. May 21, 2021. Dots represent quarterly data.

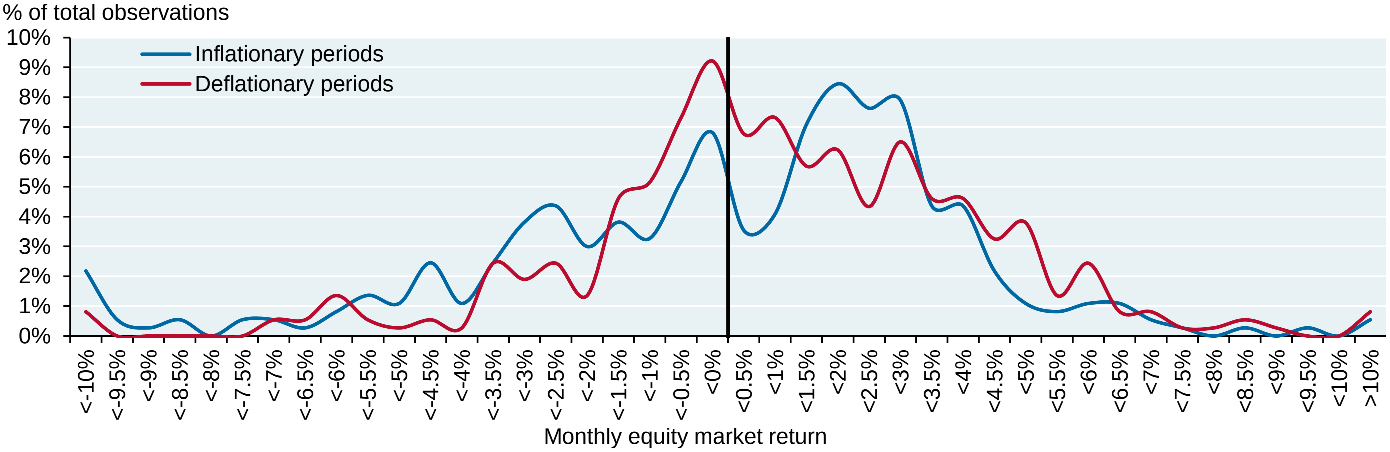
S&P 500 returns, earnings, and multiples
YTD performance



Source: Bloomberg. May 21, 2021.

What about a longer history of equities and inflation? The distributions of equity returns over cash since 1960 as a function of whether inflation was rising (blue) or falling (red) are not that different from each other, and if anything, *deflationary* periods had higher excess returns than inflationary ones[3]. Furthermore, 44% of monthly returns during inflationary periods were negative. **In other words, the maxim that "inflation is good for stocks" has only been true part of the time; and deflation has arguably been even better for investors**.

Equity market returns over cash since 1960
% of total observations



Source: Robert Shiller. April 2021.

Summary statistics

	Average	Median	Standard deviation	% of observations below zero
Inflationary	0.0%	0.8%	3.8%	44%
Deflationary	0.9%	0.8%	3.3%	39%

[3] Inflation/deflation periods are computed based on the 1 year change in CPI vs the 7 year trend.

[2] "What's your US equity market outlook for the rest of the year?"

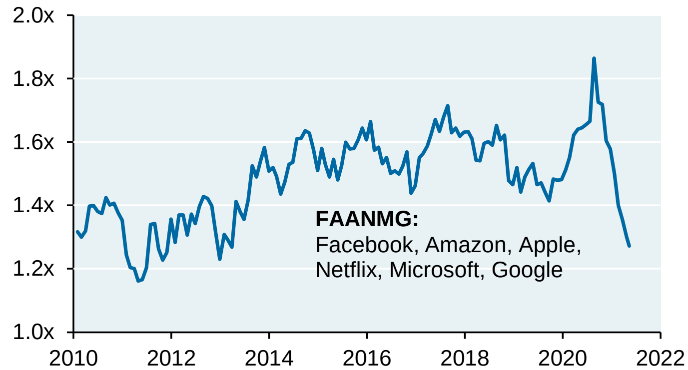
First, market technicals have improved: **many over-crowded trades have been partially unwound** (renewables, SPACs, unprofitable young tech companies, "innovators", China internet, etc). Also, the valuation premium investors pay for FAANMG stocks relative to the rest of the tech, media and entertainment sectors has been unwound as well, accompanied by fund managers reducing their tech allocations to very low levels.

As shown in the fourth chart, there's a powerful capital spending rebound underway in the US (and globally as well) that should propel earnings higher. At the start of the year, 2021 US earnings expectations were $175 per share. They are now $196 per share and operating leverage suggests they may rise higher than that. However, after this year's surge in earnings, most projections for 2022 revert back to single digit earnings growth. **I can envision another 4%-6% rally in US equities by the end of 2021 as earnings growth exceeds the impact of multiple contraction, but I see the overall trend as mostly sideways for the next few months as markets digest the eventual withdrawal of maximum Fed accommodation**. Financials, energy, household durables and retailers are better situated to benefit from the Biden agenda and higher rates.

Expensive and speculative stocks are rolling over
Index (100 = Aug 2020)

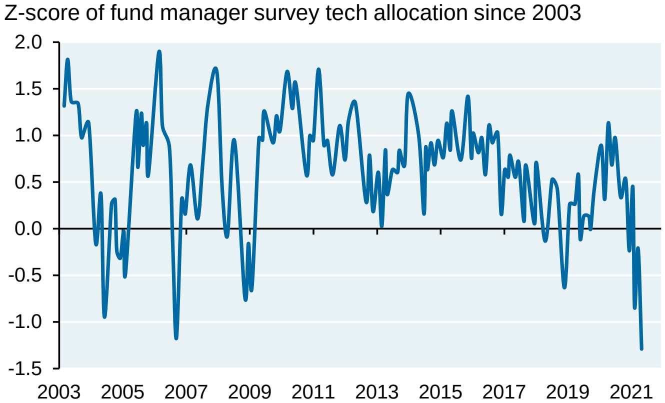
Source: Bloomberg, JPMAM. May 21, 2021.

FAANMG valuations vs tech, media & entertainment
Forward 12-month relative P/E ratios



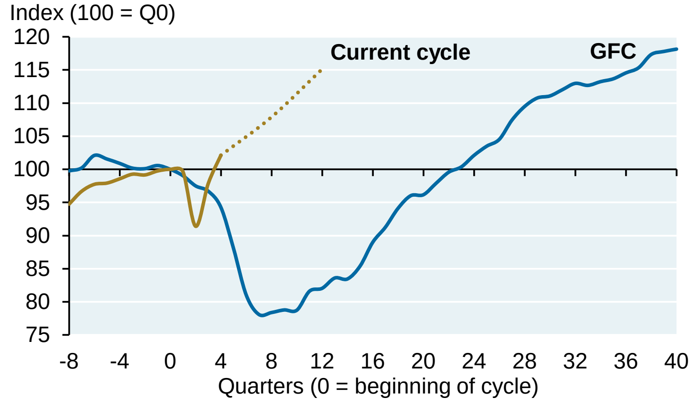
Source: Bloomberg, Factset, JPMAM. May 21, 2021.

Fund manager tech allocations at all-time low
Z-score of fund manager survey tech allocation since 2003



Source: BofA Global Fund Manager Survey. May 2021.

US real investment: current cycle vs Global Financial Crisis
Index (100 = Q0)



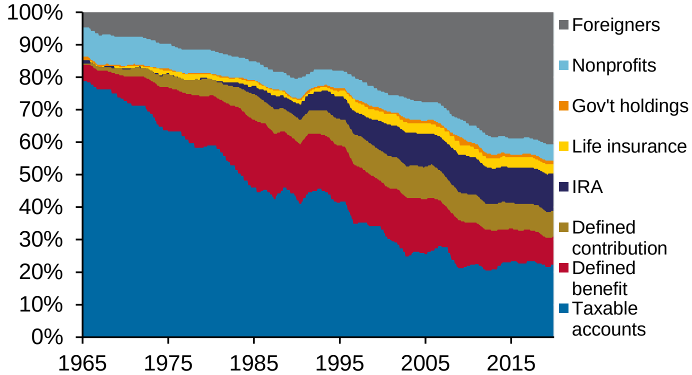
Source: BEA, JPMAM. Q4 2020. Dotted line = JPM forecast.

[3] "How big a market risk is a potential increase in capital gains taxes on individuals?"

Not much. US taxable accounts represent less than 25% of stock ownership. Furthermore, projected capital gains tax increases only represent 0.1%-0.2% of overall market capitalization[4]. Lastly, in 1986 and in 2012, rising capital gains rates didn't have much of an impact on equity markets.

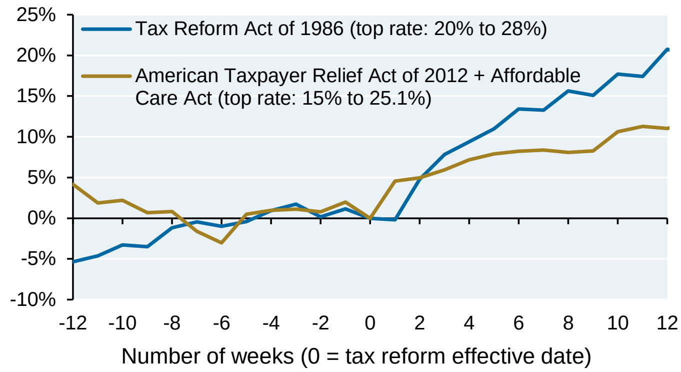
Corporate tax increases are the bigger risk given the contribution of lower corporate taxes to rising profit margins in the last 20 years (see pie chart). Even so, the expected hit to S&P profits from the latest estimates of Biden's corporate tax agenda is only around 5% in 2022, as illustrated in the last chart.

Ownership of US corporate stock
% of direct and indirect holdings



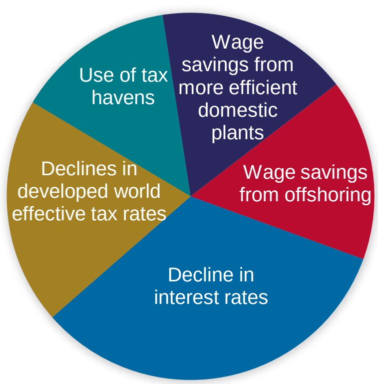
Source: Tax Policy Center. 2019.

S&P 500 return relative to effective date of capital gains tax hikes, % change in S&P price level from date of tax reform



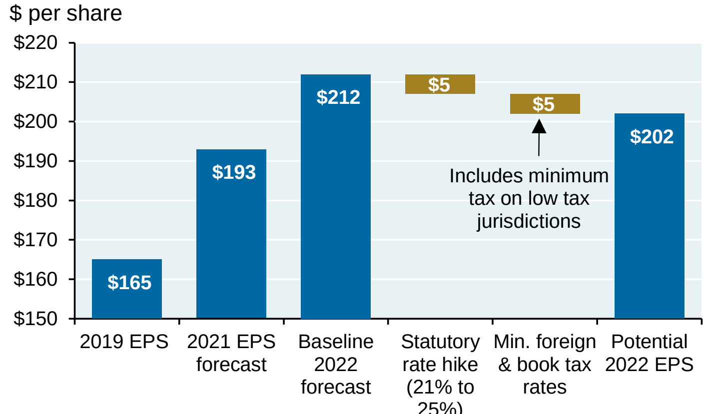
Source: Bloomberg, US Department of Treasury. 2020.

Drivers of S&P 500 manufacturer profit margin growth, 2019 vs 2000



Source: Empirical Research Partners. May 2020

Biden tax plan impact on 2022 earnings per share estimate
$ per share



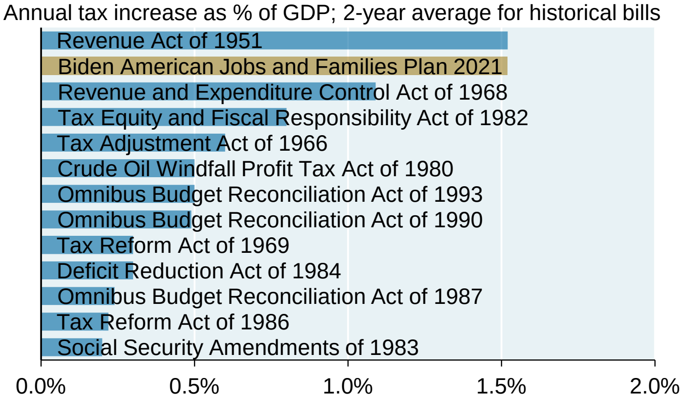
Source: GS, JPMAM. May 2021.

[4] "*Higher capital gains taxes: running the numbers*", Empirical Research, May 2021

[4] "I thought Biden was going to raise taxes to fund future spending plans. Is that not the case?"

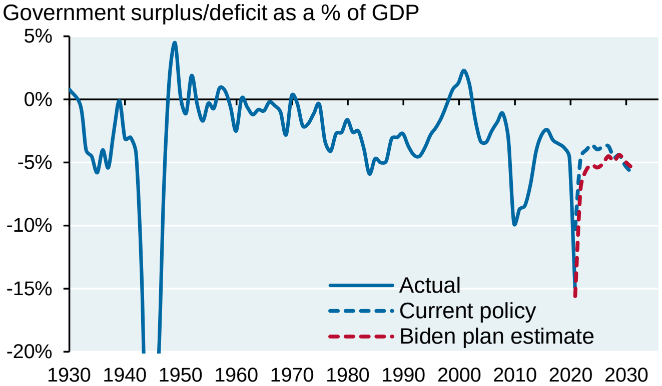
While the Biden tax hikes would be one of the largest tax increases since 1950, they are only expected to finance ~75% of the planned spending increase. As a result, spending and budget deficit projections are on track for post-war no-man's land, although to be clear, a lot of this was **already** baked into CBO projections for the next decade (the "current policy" series in the charts). Biden's agenda provides an obvious boost to inflation expectations, although it's still unclear what parts of the American Jobs and Families Plan will get passed. **Remember**: inflation concerns cited on page 1 from Larry Summers and Ray Fair were based on the American Rescue Plan passed last March, and did not incorporate *additional* net spending from any future bills.

Revenue impact of major tax bills
Annual tax increase as % of GDP; 2-year average for historical bills



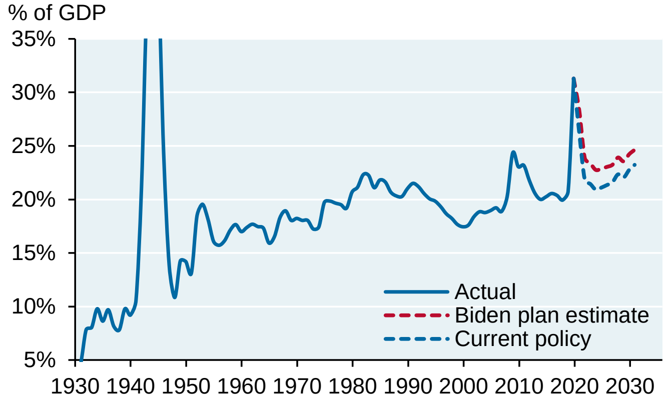
Source: Treasury, CBO, Cornerstone Macro, JPMAM. May 2021.

US fiscal deficit
Government surplus/deficit as a % of GDP



Source: OMB, CBO, CRFB. May 2021.Current policy excludes virus bill.

US federal spending
% of GDP



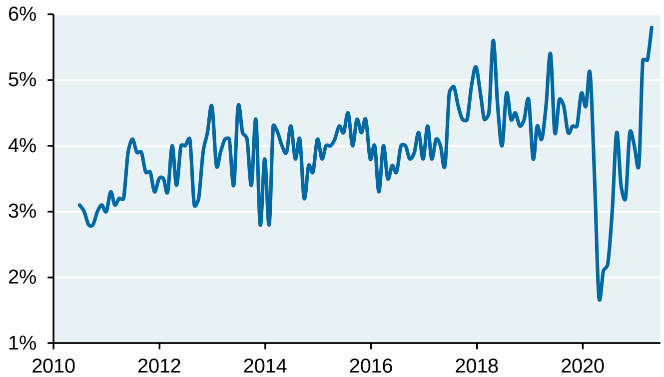
Source: Fed, OMB, CBO, Cornerstone, JPMAM. May 2021.

[5] "What are the latest inflation indicators you're looking at?"

Rental price expectations, producer prices, supply bottlenecks, small business worker shortages, wage increase intentions, etc. **The Fed believes/hopes/prays that these pressures are transitory** and that in 2022, inflation will be back to normal. After the Fed got it wrong for a decade thinking policy rates and inflation were going to rise (see the "oops" chart), we should all consider the possibility that they're wrong this time as well.

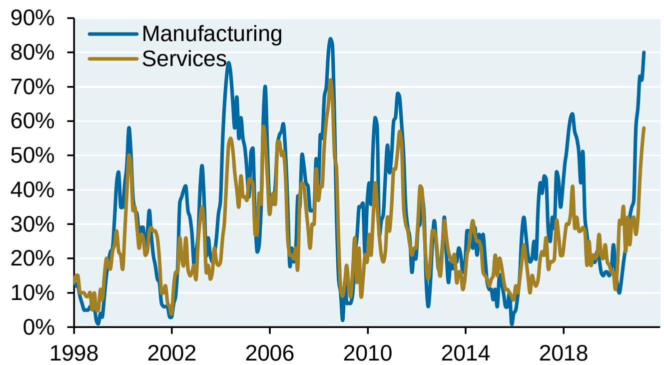
U-Michigan consumer inflation expectations jumped from 3.4% to 4.6%, Citi's inflation surprise index is rising sharply and some economists now project core CPI of 3.6% in June. **The Fed is probably right that some of this is transitory, such as the 48% (!!) increase in used car prices since last spring. But that part that isn't transitory is inconsistent with the Fed's current "max accommodation" policy.**

US home rental price expectations
Expected % change over the next 12 months



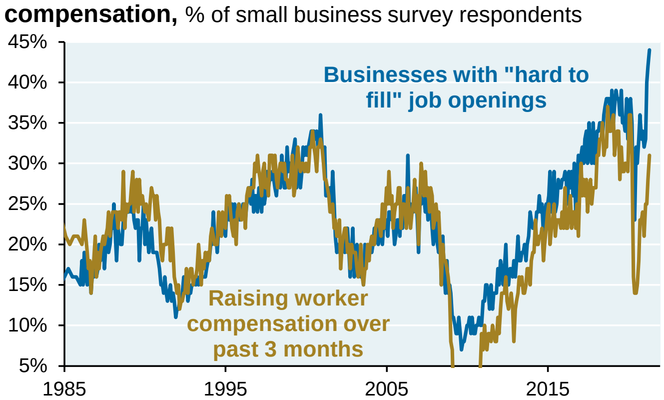
Source: Fannie Mae, Bloomberg. April 2021.

Companies paying higher prices
% of ISM survey respondents paying higher prices



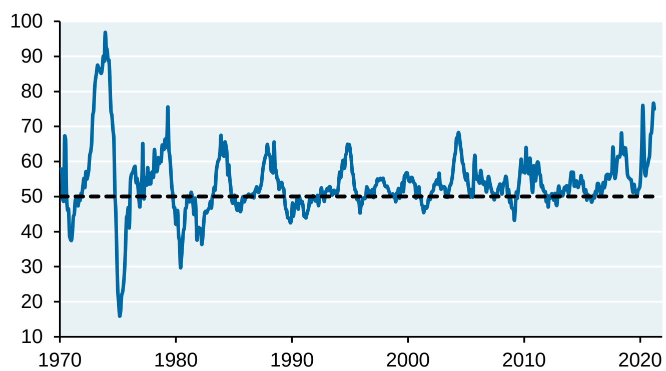
Source: Bloomberg. April 2021.

Small businesses unable to fill job openings and raising compensation, % of small business survey respondents



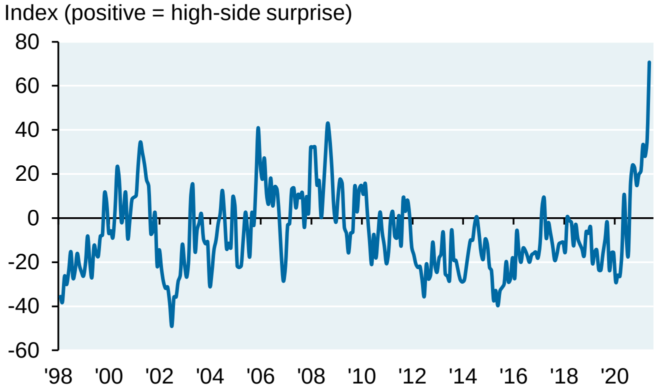
Source: Bloomberg, NFIB. April 2021.

ISM manufacturing supplier deliveries index
Index, 50+ = slower deliveries



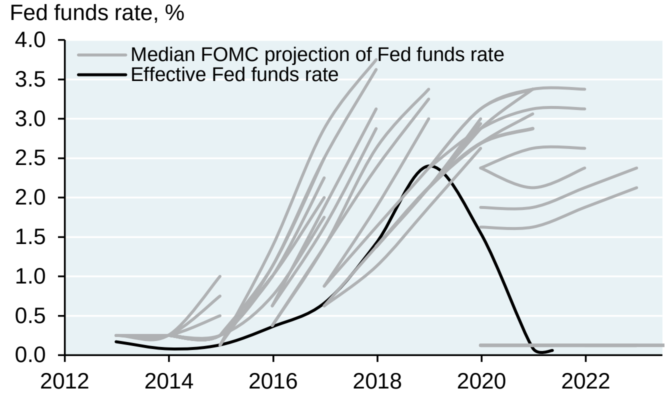
Source: Bloomberg. April 2021.

US inflation surprise index
Index (positive = high-side surprise)



Source: Citibank, Bloomberg. May 18, 2021.

Fed projections vs actual Fed funds rate: Oops!
Fed funds rate, %



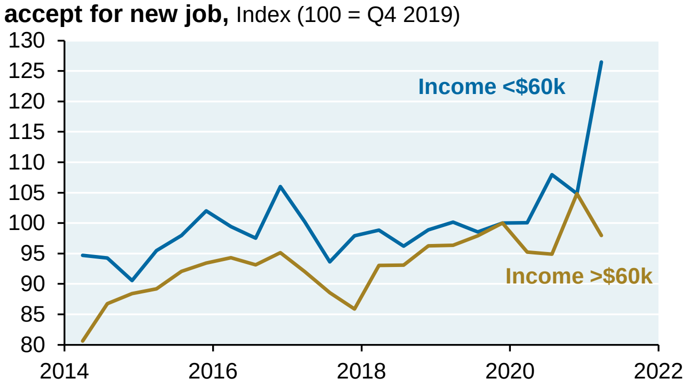
Source: Federal Reserve, JPMAM. May 18, 2021.

We're also looking at how unemployment benefits affect wages and labor force participation. The first chart shows the wage employees would accept to come back to work; it's spiking for workers earnings less than $60k. Supply/demand and the price of labor is all part of a market economy, so there is nothing unusual at work here. **Labor scarcity should ease later this year** with the September expiration of COVID-related unemployment insurance programs (PUA, PEUC & FPUC) which cover over 12 million people; as some states opt out of these programs earlier; and people not looking for work due to COVID begin doing so as infections decline. But if labor scarcity does not ease as expected, markets may react negatively to wage inflation that's inconsistent with current Fed policy. Average Hourly Earnings and the Employment Cost Index will be two of the most closely watched variables in the next few months.

US home prices are surging but are not directly reflected in the "owners' equivalent rent" concept which is around 24% of the US CPI basket. Even so, a broader assessment of inflationary pressures and financial stability risks would incorporate the implications of unprecedented housing shortages. Housing inventory relative to sales has now collapsed to the lowest level on record.

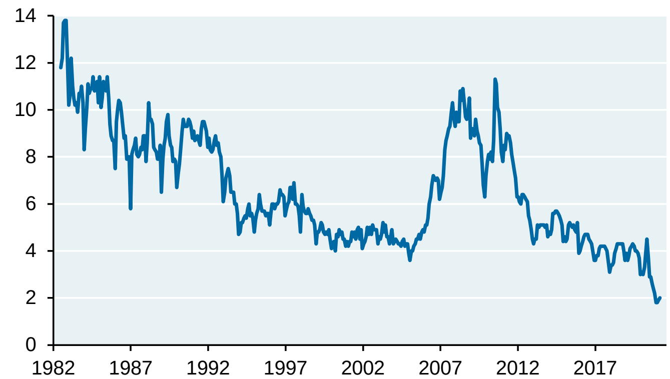
One last point: the Fed is often described as more focused on PCE inflation than on CPI. PCE inflation has smaller contributions from housing, health insurance and used cars, and may trail CPI by 0.5% to 1.0% over the next few months. If so, the Fed might not do much even as other inflation indicators are rising.

"Reservation wage": lowest wage employees willing to accept for new job, Index (100 = Q4 2019)



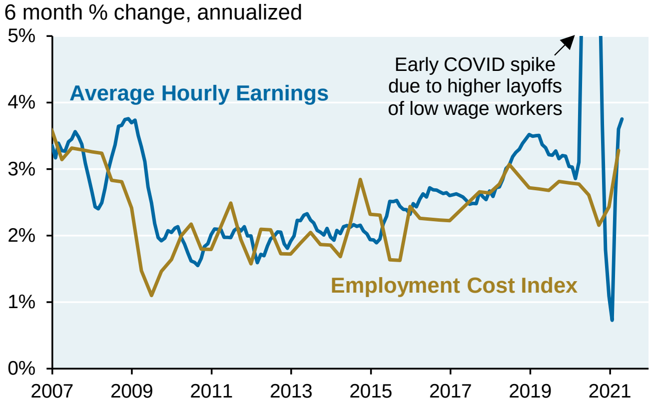
Source: Federal Reserve Bank, JPMAM. March 2021.

Months supply of existing single family homes
Months



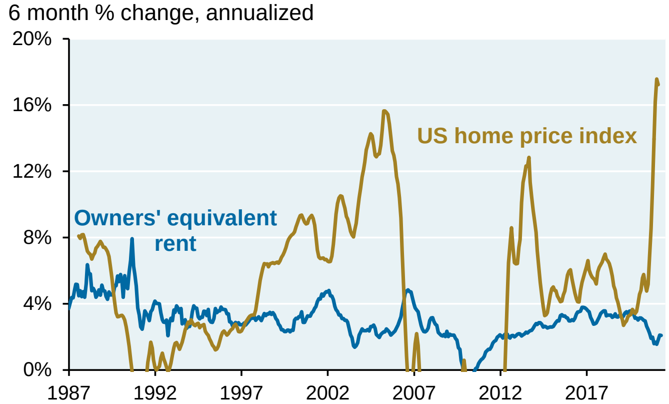
Source: National Association of Realtors. March 2021.

Wage growth indicators
6 month % change, annualized



Source: BLS, JPMAM. April 30, 2021.

Owners' equivalent rent vs US home price index
6 month % change, annualized



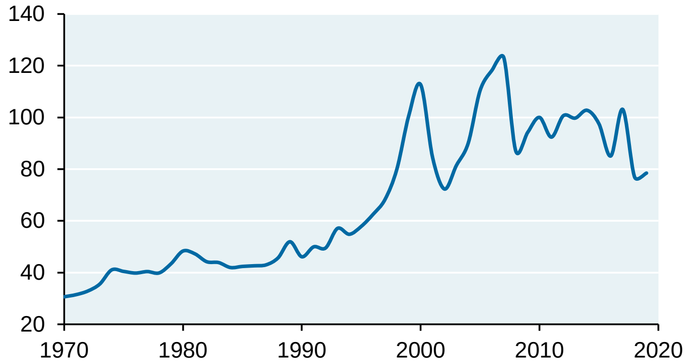
Source: Bloomberg, JPMAM. April 30, 2021.

[6] "Are there structural forces pushing up inflation in addition to cyclical ones?"

Globalization encompasses trade, portfolio flows and direct foreign investment. The first chart shows how 2019 marked the lowest globalization level in many years, and it's on track to decline further. For years, analysts correctly described globalization as deflationary (primarily through the decline in producer prices); I don't know how to avoid the conclusion that *de-globalization* will be *inflationary*.

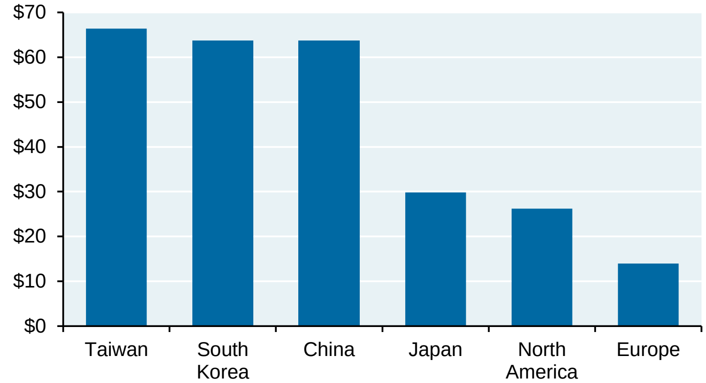
Ignore the semiconductor shortage when thinking about on inflation. There's a lot of semiconductor capital spending coming in the next couple of years, and as Gavekal Research reported in their May 13 research note, eventual overcapacity is more likely than continued shortages.

Globalization index, Index of global trade, portfolio flows and foreign direct investment as % of global GDP, 2010 = 100



Source: World Bank, IMF. 2019.

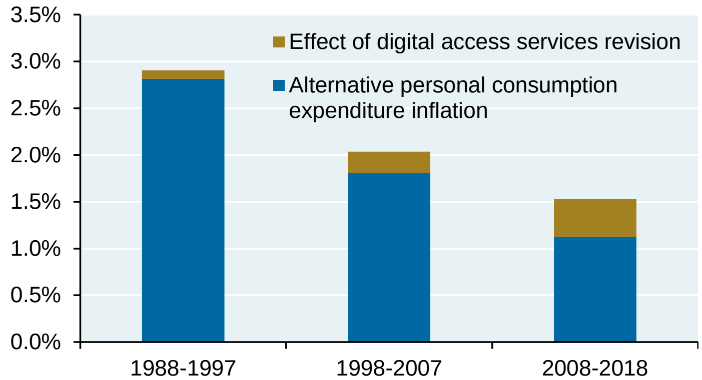
Forecast spending on semiconductor equipment
US$, billions, 2019-2022



Source: Gavekal. 2021.

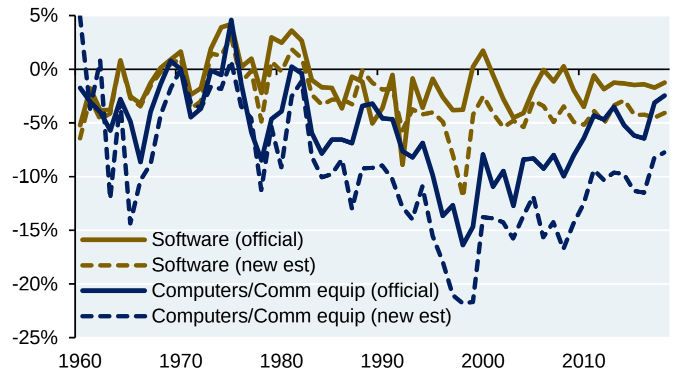
Not all structural inflation barometers point higher. Fed researchers believe that reported inflation for consumer digital access services is overstated (data, voice, and video programming to households over internet, mobile cellular networks and cable television networks)[5]. Their alternative measure of inflation for these services **fell by 19% per year from 2008 to 2017 vs a 1% increase in the official data**. Even though the consumer digital access basket is only 2.5% of consumption, the large deflation in this sector reduced their measure of overall inflation by almost 0.5%. These results are similar to prior findings that software and communications equipment prices are also overstated in official inflation data. The Fed is of course aware of this research, and it may contribute to their conviction to "ride out" what they see as transitory inflation spikes.

Official and alternative inflation, Average annual percent change, personal consumption expenditure inflation



Source: Byrne and Corrado. 2020.

New analysis from the Fed shows more ICT deflation than officially reported data, y/y change

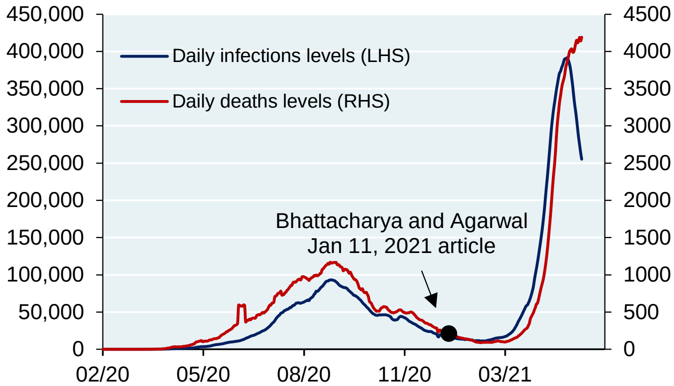


Source: Byrne and Corrado. 2019.

[5] See "*The increasing deflationary influence of consumer digital access services*", Byrne and Corrado, 2020; and "*ICT prices and ICT services: What do they tell us about productivity and technology*?", Byrne and Corrado, 2019.

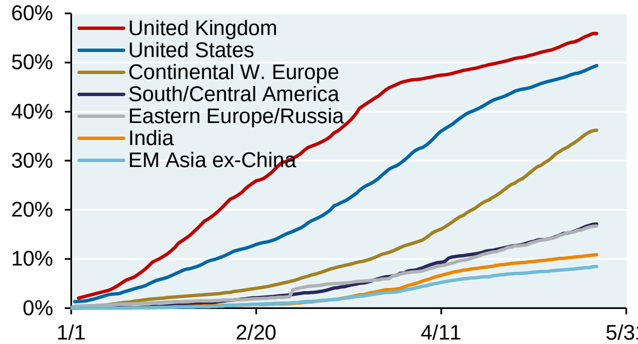
[7] COVID charts of the week: India and the benefit of vaccination for COVID survivors

India



Source: JHU, IMF, JPMAM. May 23, 2021. 7 day smoothing.

Country/Region vaccination rates
Unique people vaccinated as % of population



Source: OWID, JPMAM. May 23, 2021.

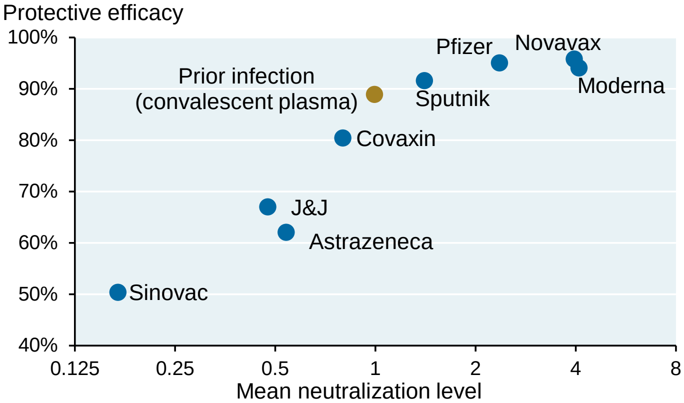
In January 2021, Stanford Professor of Medicine Jay Bhattacharya wrote an article stating that[6]:

> For recovered Covid patients in India, "**vaccines provide no benefit and some harm, and so therefore it would be unethical to vaccinate them";** that 50%-70% of the Indian population had developed immunity ("freely and silently"); and that there were reasons for optimism in India in 2021 after a challenging 2020

Let's take a closer look. As shown below, four vaccines have higher estimated efficacy than survivor plasma, and the higher the initial efficacy, the longer immunity tends to last[7]. Vaccines available in India (AstraZeneca and India's Covaxin) show *lower* estimated efficacy than survivor plasma, so I understand the inclination to preserve scarce vaccines for uninfected individuals if in fact vaccination would provide no benefit to survivors.

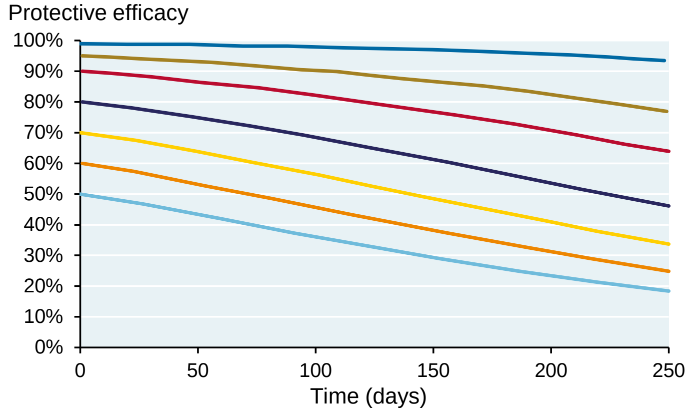
But research DOES show a robust additional antibody response for COVID survivors after a single dose of a vaccine[8]. There may still be an argument for protecting uninfected populations first, but the decision between vaccinating a 70 year old COVID survivor vs an uninfected 35 year old is NOT that straightforward. Also: India's 2021 COVID wave suggests that those 50%-70% survivor immunity estimates were either wrong, or irrelevant to understanding the country's risk of reinfection and suitable public policy. An eventual compilation of COVID articles will serve as a testament to the **futility** of bold pronouncements in the face of a new and mutating virus.

Vaccine efficacy vs natural protection from infection
Protective efficacy



Source: Khoury et al., Nature, May 2021.

COVID-19 protection time decay
Protective efficacy



Source: Khoury et al., Nature, May 2021.

[6] *"Majority of Indians have natural immunity. Vaccinating the entire population can cause great harm",* Bhattacharya and Agarwal, January 11, 2021

[7] "*Neutralizing antibody levels are highly predictive of immune protection from symptomatic SARS-CoV-2 infection*", Khoury et al., Nature, May 2021

[8] "*Penn Study Suggests Those Who Had COVID-19 May Only Need One Vaccine Dose*", Penn Medicine, April 15, 2021

IMPORTANT INFORMATION

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