Economics and Country Risk

New York State Economic and Revenue Consensus Forecast Conference

US economic outlook Solid, but slowing growth, declining inflation, rising rates

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Hallmarks of the IHS Markit US forecast

- Expectation of continued decline of COVID cases and hospitalizations
- Limited spillovers, so far, from Russian invasion of Ukraine heavily-weighted downside risks
- Solid but slowing trend growth of output, as fiscal support wanes and pent-up demand is satisfied
- Continued gradual improvement in the labor market as employment and labor force rise
- Declining inflation as output growth slows, commodity prices turn and supply issues resolve
- Fed tightening. Taper has begun; Policy rate to increase in March, May and June and ...
- Rougher sledding ahead for equities
- Key risks: More spillover from Russian invasion, waning stimulus, persistent elevated inflation,

Pace of growth – balancing headwinds and tailwinds

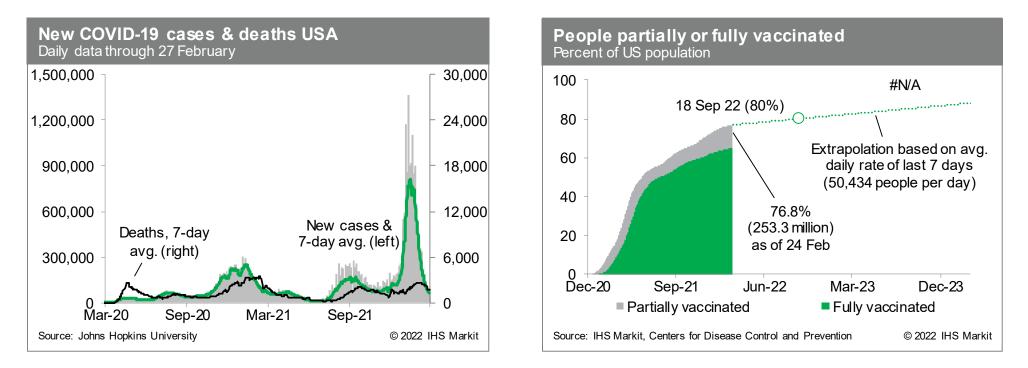
Headwinds

- Omicron variant not done yet ...
- ... residual caution from consumers
- Supply constraints, including shipping bottlenecks
- Waning fiscal support; rates heading higher
- Housing has peaked
- Labor market scarring?
- Still huge uncertainty

Tailwinds

- Widespread and rising vaccination rates
- Release of pent-up consumer demand for socially dense spending; surge in wealth
- Very accommodative monetary policy: low rates and ample liquidity
- Prior generous broad-based fiscal support
- Inventory shortfalls mean re-stocking will keep factories humming
- Commodity prices turning lower ... soon?

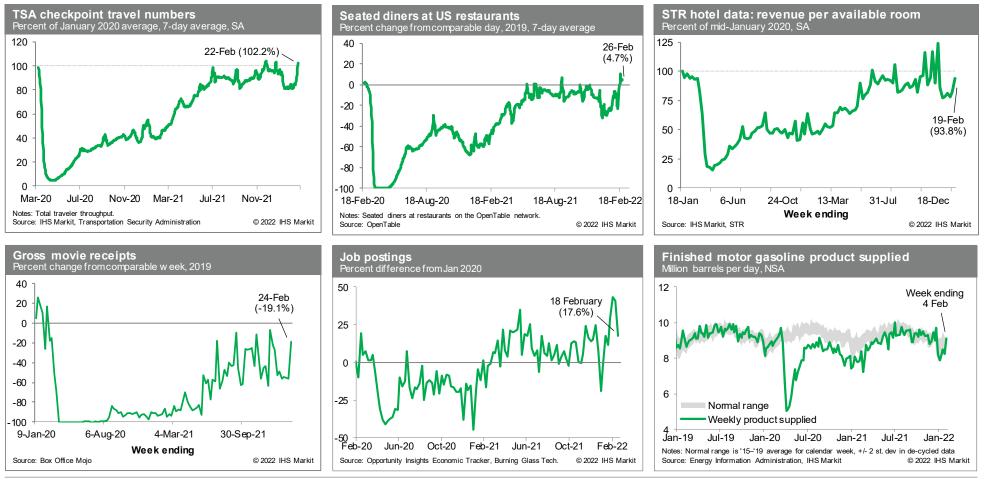
COVID-19 refusing to go quietly: Has max impact on spending passed?



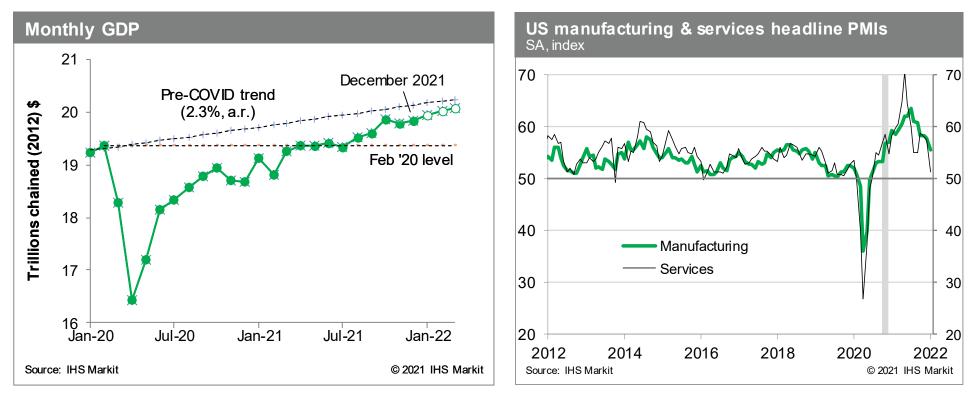
- Despite high number & % of vaccinations, the Omicron variant drove a worrying spike in new cases in areas of low vaccination rates; 75%+ now have at least one dose; roughly 65% are fully vaccinated
- Is the worst behind us as states/cities lift mask mandates?

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Key high-frequency indicators of consumer spending show deceleration



Similar in other measures of high-frequency data; but expect a pick-up



- Stimulus checks spurred a burst of spending, but delta and supply chains slowed Q3 GDP growth to just 2.3%!
- But, business is "chomping at the bit" with manufacturing still tightly wound; held back by labor and materials shortages

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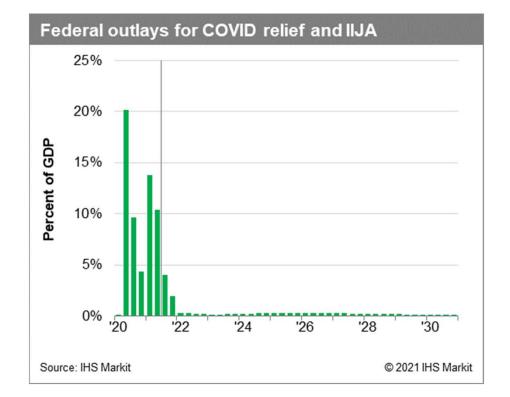
Key forecast assumptions:

- Containment measures gone. Mask & vax requirements easing
- Widespread vaccinations slowed spread; New variants pose new challenges in areas of low vaccination rates and breakthrough infections; transition to endemic
- Russian invasion of Ukraine causes jump in oil prices, decline in equities, but flight-to-safety
- Massive, but waning fiscal stimulus: \$3.4 trillion of COVID-19 relief in 2020, \$1.9 trillion American Rescue Plan in 2021; "new" IIJA is in the forecast with small effect; BBB not yet
- Oil prices (Brent) to peak at \$88/bbl in Q1 2022, ease to \$77 in late 2022, \$67 in late 2023
- Broad non-oil commodity prices have peaked
- Trade-weighted US dollar near peak, to edge lower; fall 1-1½% by end 2023
- Inflation expectations remain anchored near 2%; help contain rise in inflation
- Federal Reserve ends asset purchases, starts rate hikes in March; 4 or 5 this year

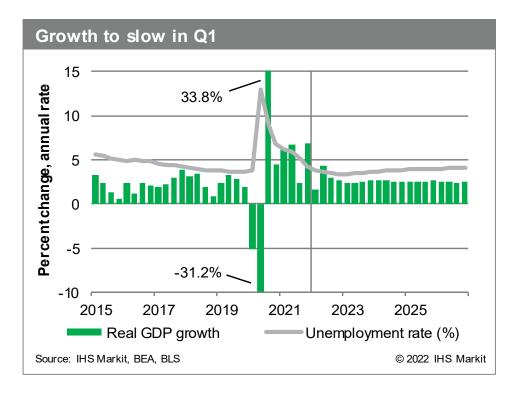
The forecast includes 6 COVID relief measures and, this month, IIJA

Premature to include evolving reconciliation bill the size, scope, timing - even fate - of which remain highly uncertain

- COVID relief measures
 - Coronavirus Preparedness & Response Supplemental Appropriations Act
 - Families First Coronavirus Response Act
 - Coronavirus Aid, Recovery & Economic Security (CARES) Act
 - Payroll Protection & Healthcare Enhancement Act
 - Coronavirus Response & Relief Supplemental Appropriations Act
 - American Rescue Plan Act (ARP)
- Infrastructure Investment & Jobs Act (IIJA)

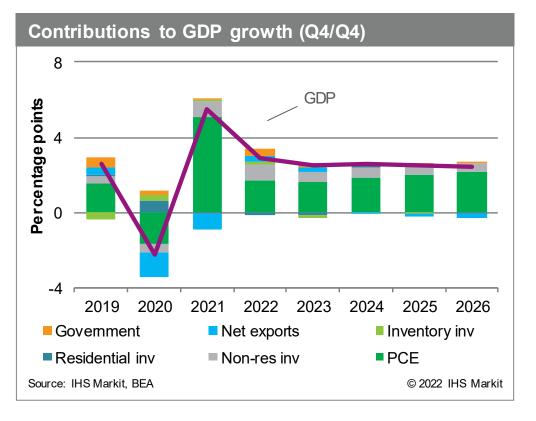


Waning stimulus, wealth surge, low, but rising rates, rising vaccinations; intermittent virus surges, persistent inflation are risks



- Massive stimulus and release of pent-up demand provided strong boost to growth!
 - But stimulus effects are waning real disposable income is falling after Q1 2021
 - Pent-up demand in service consumption and vehicles remains
- Virus variants, and others to follow, comprise an intermittent headwind to continued strong growth; cloud outlook
- Persistent elevated inflation further erodes real income, eliciting Fed and other CB responses
- Stagflation risk rises, especially if inflation expectations rise materially

Personal consumption expenditures (PCE) and business investment lead



Consumer spending swings are the key driver, but induced effects in investment matter too

- Consumer spending is usually more stable during recessions than investment; not this time
- Stimulus, wealth, release of pent-up demand power PCE growth to 8.0% in 2021, 3.4% in 2022
- Business fixed investment aided by low rates and expectations that stimulus would cushion the blow = +7.6% in '21; +6.8% in 2022
- Inventory building is a big part of the story ahead, adding 1¼ ppts to 21H2 and 22H1 growth
- Housing investment did "surprisingly" well in 2020, aided by historically low mortgage rates

Solid, albeit slower growth expected in 2022!

	% ch from prior year, or annual average						% ch from Q4 of prior year, or Q4 level					
	2021	2022	2023	2024	2025	2026	2021.4	2022.4	2023.4	2024.4	2025.4	2026.4
Real Gross Domestic Product*	5.7	3.7 -0.4	2.7 0.2	2.6 <i>0.1</i>	2.5 <i>0.1</i>	2.5 0.1	5.5	2.9 - <u>0.3</u>	2.5 0.2	2.6 0.1	2.5 0.1	2.5 <u>0.1</u>
Dom. Final Sales Contribution	6.7 - <u>0.2</u>	2.8 -0.4	2.5 0.4	2.8 0.3	2.7 0.1	2.7 0.1	5.5 -0.4	2.7	2.6 <u>0.4</u>	2.8 0.2	2.7 0.1	2.7 <u>0.1</u>
Net Exports Contribution	-1.4	0.0	0.2 -0.2	-0.1 - <u>0.1</u>	-0.2 -0.1	-0.2	-0.8	0.3	0.1 -0.2	-0.1	-0.2	-0.2
Inventory Invest. Contribution	0.3 <i>0.4</i>	0.8	0.0	0.0	0.0	0.0	0.4 <i>0.3</i>	-0.1 - <u>0.3</u>	-0.1	0.0	0.0	0.0
Real PCE*	7.9 - <mark>0.1</mark>	3.2 -0.4	2.7 0.5	3.0 <i>0.3</i>	3.1 0.2	3.2 0.1	7.1 -0.4	2.6 0.1	2.9 <i>0.5</i>	3.0 0.2	3.1 <i>0.1</i>	3.2 <u>0.1</u>
Unemployment Rate**	5.4	3.6 -0.1	3.5 -0.1	3.7 -0.1	3.9 -0.1	4.0	4.2 -0.1	3.4 -0.1	3.6 -0.1	3.8 -0.1	4.0	4.0
Core PCE Inflation*	3.3	4.3 <i>0.6</i>	2.3 0.1	2.1	2.1	2.1	4.6 <i>0.1</i>	3.4 0.7	2.1	2.1	2.1	2.1
Federal Funds Rate**	0.08	0.65 <i>0.20</i>	1.37 0.20	1.83	2.14	2.39	0.08 - <u>0.01</u>	1.08 <i>0.33</i>	1.61 <i>0.20</i>	1.93	2.18	2.43
10-year T-Note Yield**	1.44	2.00 0.20	2.55 0.10	2.78 0.10	2.94	3.04	1.54 <i>0.01</i>	2.27 0.17	2.65 0.13	2.86 0.03	2.99 0.02	3.07 <u>0.01</u>
S&P 500 (period end)***	35.5 -0.1	8.9 - 1.3	-0.1 2.3	-0.1 <i>0.6</i>	0.2 -0.2	1.8 -0.3	26.9 - <u>0.5</u>	-0.2 1.1	-0.5 <i>0.5</i>	-0.6 <i>0.6</i>	0.9 - <u>0.4</u>	2.3 - <mark>0.2</mark>

Notes: Positive differences from previous forecast show n in teal font, negative differences show n in red font.

* % ch; ** annual average level or level at Q4; ***level at Q4 is last trading day of the year.

Source: IHS Markit

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Russian invasion of Ukraine – modest hit to US with lots of downside risks

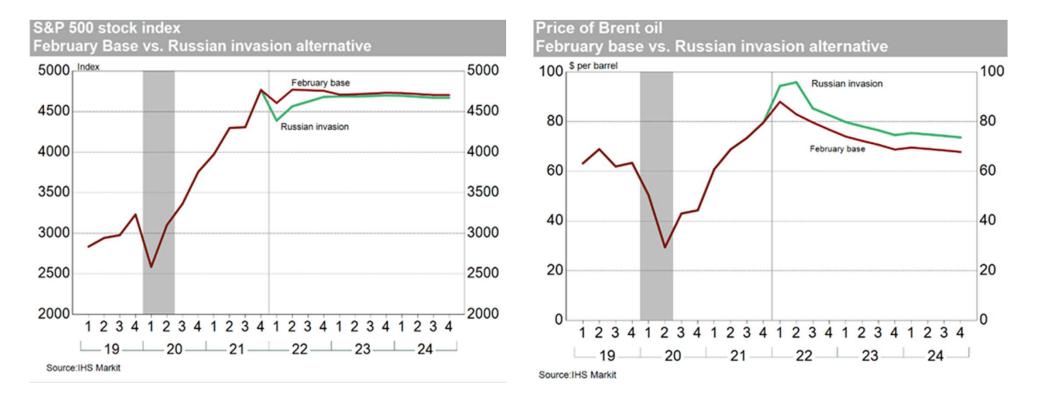
Impact of recent energy price and stock price moves on the US economy

2022	2023	2024						
Difference from base in percentage points								
-0.4	-0.1	0.0						
03	0.0	-0.1						
0.0	0.0	0.1						
0.2	0.3	0.3						
-3.4	-0.6	-0.7						
Price of Brent oil (\$/bbl) **								
81.83	71.42	68.69						
89.53	77.25	74.52						
	-0.4 0.3 0.2 -3.4 81.83	arcentage points -0.4 -0.1 0.3 0.0 0.2 0.3 -3.4 -0.6 81.83 71.42 89.53 77.25						

- * 4th-quarter over 4th-quarter % change
- ** annual average

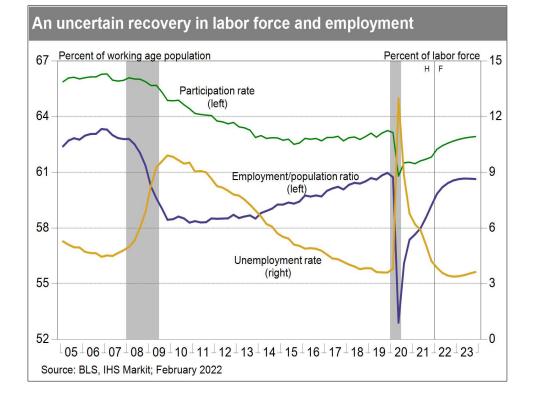
- Unfathomable and tragic human toll from loss of life and upending of Ukrainian lives
- Jump in oil prices and decline in equities are primary channels of immediate influence on the US economy
- Flight to safety capital flows help insulate the US
- US as leading oil and wheat producer will "benefit" from price rise and increased production; other trade diversion from Russia to US
- Other "positive" offsets:
 - Coordinated release from SPR;
 - adjust pace of monetary tightening as needed
- Big downside risks:
 - Quick turn to risk aversion in EU and here
 - Wider war & sanctions

Russian invasion of Ukraine – modest hit to US with lots of downside risks



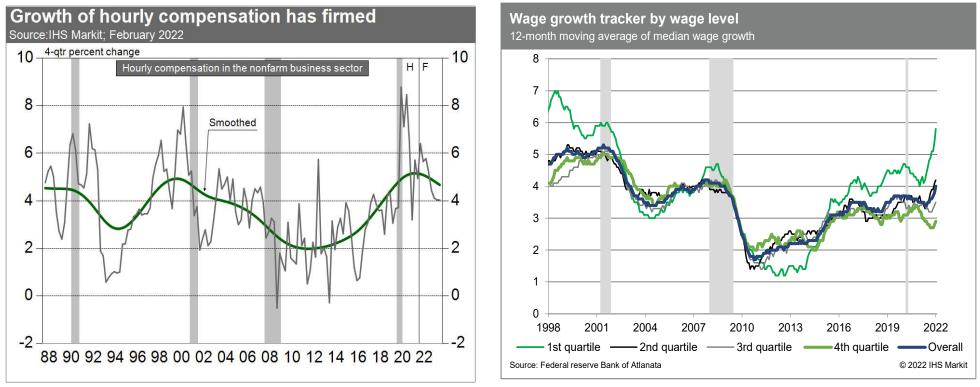
Employment rebound restrained by weak LF participation & jobs mismatches

- Re-opening in 2020 quickly brought back restaurant workers for carry-out, curbside & delivery – "low hanging fruit"
- Recovery in the labor force was also initially very sharp, but then slowed sharply
- Retirements 2+ million excess retirements; lost jobs and/or wealth jump put them "over the top;" not a one-way street; 46% 50+ would return*
- Dependent care rose sharply during the pandemic ... gradually shrinking
- Health concerns public facing, e.g. elder teachers among unvaccinated kids; immunecompromised at home
- Generous unemployment benefits, stimulus \$\$\$
- Slower population/immigration growth



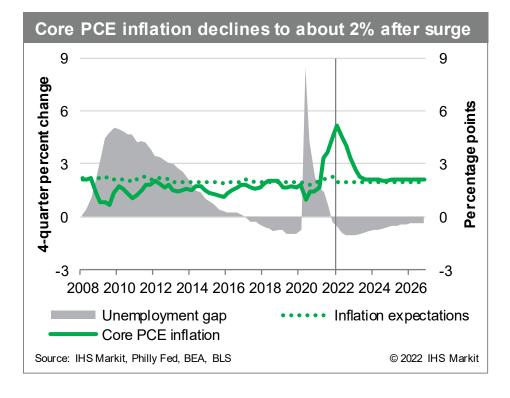
* RAND Research Brief: "**The American Working Conditions Survey Finds That Nearly Half of Retirees Would Return to Work**", <u>Nicole Maestas</u>, <u>Kathleen J.</u> <u>Mullen</u>, <u>David Powell</u>, <u>Till von Wachter</u>, <u>Jeffrey B. Wenger</u>, November 12, 2019

Labor costs still accelerating, but a turnaround is expected



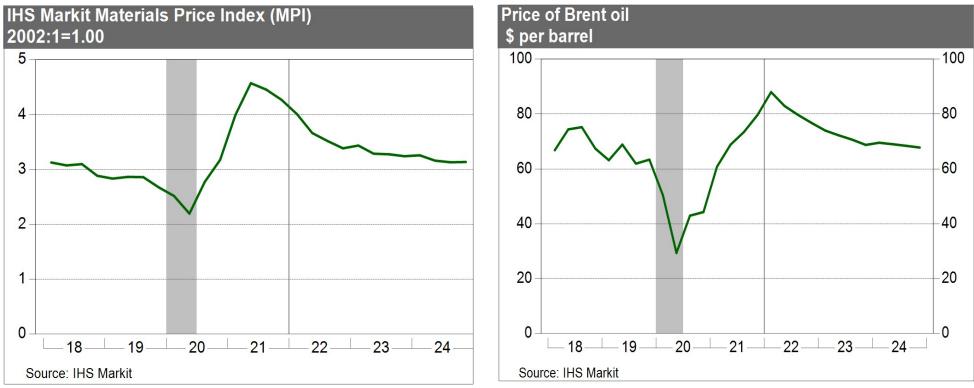
- Hourly compensation growth reflects rising wages and mix changes
- Low end of the wage scale is leading the way

After near-term surge, core PCE inflation to decline, reach "2%" in 2023



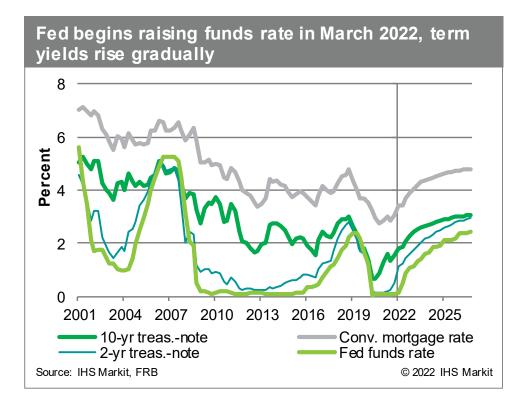
- No global sustained excess of aggregate demand over aggregate supply, rather ...
- Idiosyncratic, COVID-related, "one-time" price jumps due to mismatch of recovery in demand versus supply
- Long-tern inflation expectations continue to be well anchored
- Supply-chain issues will resolve over next 12 months as demand for goods softens
- Labor market mismatches will resolve after relative wages have time to adjust ... following "one-time" adjustments
- Inflation is driven now by "micro" issues, but inflation over the medium term is a "macro" issue

Commodity prices broadly have peaked; energy prices peaking later



- Declining commodity prices will provide a downdraft helping to slow inflation
- Non-oil commodity prices may have fully passed through by now

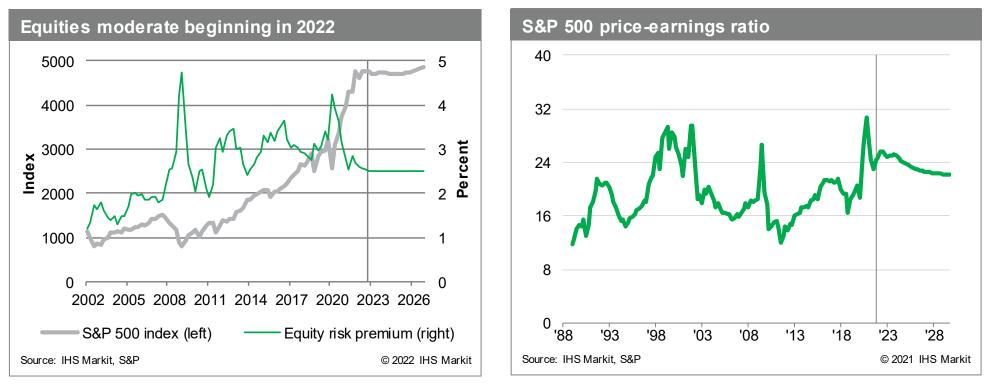
Fed grows impatient: set to remove accommodation



Fed gets anxious about persistent high inflation:

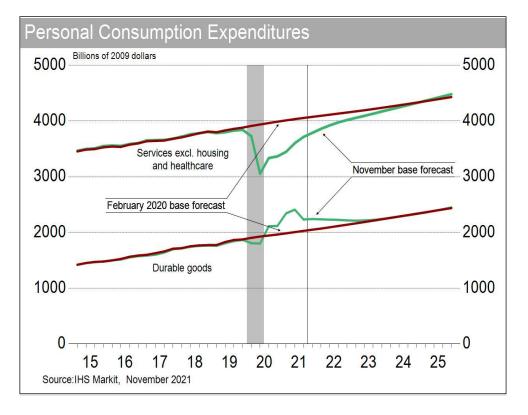
- Fed views inflation surge is temporary, but not temporary enough to stand still.
- The 4-quarter change in core PCE prices slips to 2.5% in late 2022; then remains above 2%.
- Unemployment rate declines to 3.5% by 22Q3
- Impatience with "transitory" inflation prompts accelerated taper
- Rate lift-off occurs in March of this year
- Term yields drifting higher as:
 - We near initial rate hikes
 - Term premium rises ... taper LSAP
- Federal deficits and debt unlikely to add to Treasury yields anytime soon, but eventually...

Equities challenged by slowing nominal growth, rising rates, rich valuations



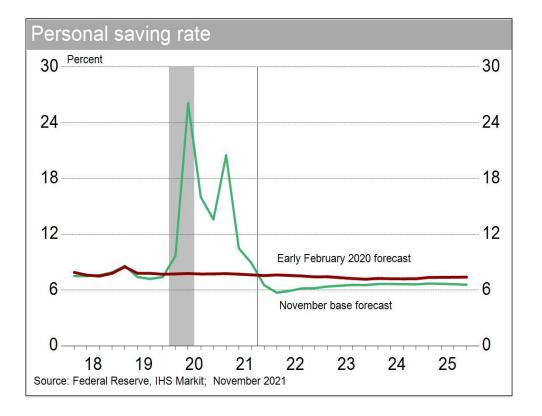
- We now show a sideways waffle in the S&P 500 through 2025
- P/E still seems a touch rich posing a downside risk to stock prices and favorable economic outlook

Rotation away from goods expenditures and towards services to continue



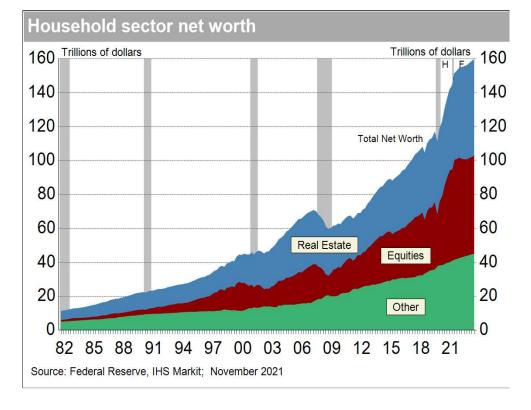
- Ongoing transition from goods toward services
- Yet on approach to new steady-state, levels are higher than prior trend due to increase in household sector wealth compared to prior path
- \$2.3 trillion (roughly) of excess saving
- Large increases in stock market and housing wealth
- Expect the "normal" relationship between spending, income and wealth to reassert itself over time

Added wealth depresses saving rate, but unlikely to fuel spending splurge



- Low marginal propensity to spend out of transitory income, accounted for sharp rise in savings, and accumulated wealth
- Low marginal propensity to save out of wealth means it won't all get spent quickly
- Expect the "normal" relationship between spending, income and wealth to reassert itself over time
- Increase in wealth/income relative to that expected pre-pandemic accounts for some modest undershoot of the saving rate

Excess saving, along with stock and house price gains drove wealth higher



- Real household wealth has exploded higher
- Massive fiscal support led to some \$2.3 trillion of excess saving over 2020 through H1 of 2021
- Low interest rates help fuel large increases in equities and home prices that added still more to the huge gain in wealth
- Real HH wealth (2009\$) is now roughly \$12 trillion (10%) higher than expected in March 2020
- Marginal propensity to consume of 3 5 cents per dollar provides a huge incremental support to PCE
- By 2025, real PCE averages nearly 2% higher than expected in early 2020

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