TD Securities

Analytics

Global Rates, FX & Commodities Strategy

8 November 2021

▶ US ▶ RATES ▶ GLOBAL MARKETS

US CPI Scanner

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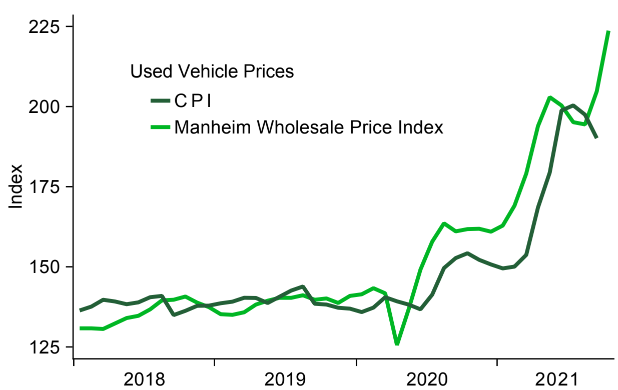
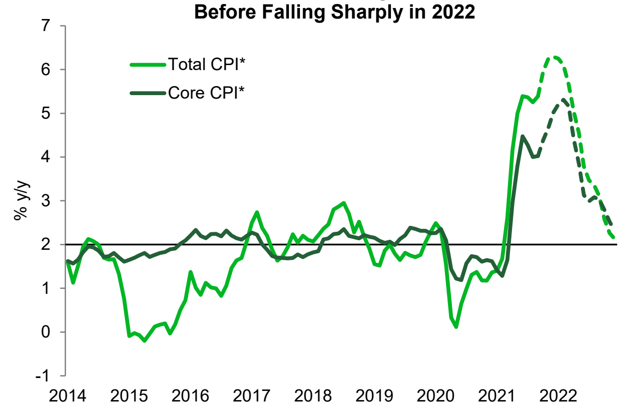
- We expect inflation to slow significantly in 2022 as fiscal stimulus fades and supply constraints ease, but we don't expect the data to be validating in the very near term. Indeed, we have raised our near-term estimates again, with much of the rise due to a renewed uptrend in used vehicle prices after two declines. For the total CPI, we forecast 6.2% y/y in 21Q4 and 2.3% y/y in 22Q4. For the core CPI, we forecast 4.7% y/y in 21Q4 and 2.5% y/y in 22Q4. For the core PCE index, we forecast 4.2% y/y in 21Q4 and 2.0% in 22Q4.
- For this week's CPI report, we forecast a strong 0.7% m/m rise overall (6.0% y/y), with the core index up 0.4% (4.4% y/y). We expect strong gains in the energy, used vehicles and health insurance components.
- **TIPS Breakevens (p5):** TIPS BEs continue to see strong inflows despite QE tapering that is set to push net 2022 TIPS issuance net of the Fed into sharply positive territory. We believe this is due to the market remaining concerned about high CPI prints and the Fed's "transitory" narrative allowing an inflation overshoot. We remain long 2y TIPS BEs to hedge inflation fears and short 10y real rates as supply-demand dynamics become a headwind.

Used Vehicle Prices Have Started Surging Again



Source: Manheim Consulting, U.S. Bureau of Labor Statistics (BLS), TD Securities

We Expect Y/Y Inflation Readings to Rise Some More Before Falling Sharply in 2022

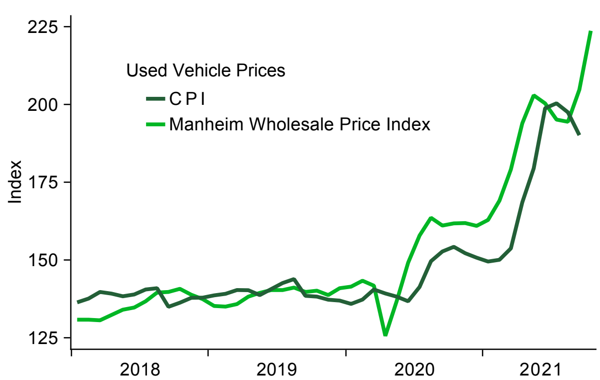


*Dotted lines represent TDS forecasts. Source: BLS, TD Securities

Overview: Slowing, But Not Yet

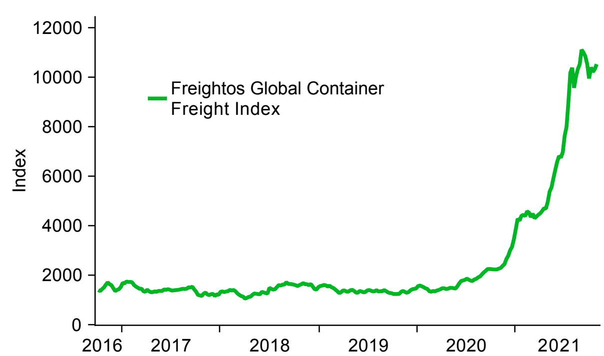
- **Scanner Intro.** Along with an overview of our inflation outlook, the Scanner includes monthly NSA (not seasonally adjusted) CPI projections (p4), a comment on TIPS from our rates strategists (p5), recent CPI trends (p6), and numerous charts and observations on a range of inflation and related data—including commodity prices, rents, the dollar, slack, labor costs, money supply and inflation expectations (pp 7-14).
- **Wait Til Next Year?** We expect inflation to slow significantly in 2022 as fiscal stimulus fades and supply constraints ease, but we don't expect the data to be validating in the very near term. Indeed, we have raised our near-term estimates again, with much of the rise due to a renewed uptrend in used vehicle prices. More broadly, we see no sign yet in the ISM deliveries indexes of meaningful relief from supply-chain constraints. More encouragingly, global freight charges may have peaked in September (see chart on the right below).
- For the total CPI, we forecast 6.2% y/y in 21Q4 and 2.3% y/y in 22Q4. For the core CPI, we forecast 4.7% y/y in 21Q4 and 2.5% y/y in 22Q4. For the core PCE index, we forecast 4.2% y/y in 21Q4 and 2.0% in 22Q4.
- **Slowing in Energy.** Our commodity analysts expect energy prices to stop surging in 2022. They forecast $76/bbl for WTI oil prices in Q4 of 2022, down from around $82 currently.
- **Fiscal Stimulus Boost to Fade.** The rents parts of services inflation have accelerated in recent months, but the net pickup in core inflation since the pandemic began is still entirely in goods, reflecting a surge in demand as well as COVID-related supply constraints. We expect weaker demand for goods, due to a fading of fiscal stimulus, as well as an easing of supply-chain issues in the year ahead. Real goods consumption is down since the last round of individual stimulus payments in March, but the level is still up 15% from the pre-COVID level; real services consumption remains down about 2%.
- **Reacceleration in Rents.** We expect the reacceleration in rents to be sustained, but the degree of strength being signaled by some private sector data (e.g., from Zillow) is unlikely to be reflected in the CPI, even with a lag. The private sector data only cover the turnover part of the market, while the CPI covers the entire market. The private sector data continue to rise rapidly, but the pace has started to moderate as the boost from reopening fades.
- **Wage Pressures.** Wage gains have picked up (p12), consistent with some employers having difficulty finding workers. We remain skeptical about the acceleration being sustained with employment down sharply from pre-COVID levels; we expect slowing as the participation rate recovers some more.

Used Vehicle Prices Have Started Surging Again



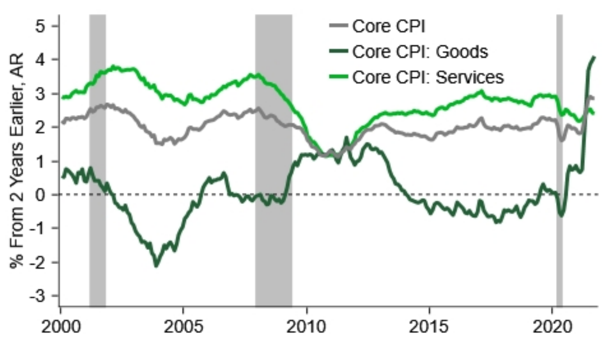
Source: Manheim Consulting, U.S. Bureau of Labor Statistics (BLS), TD Securities

Global Freight Charges Are Down Modestly in the Last Two Months, Having Surged Previously



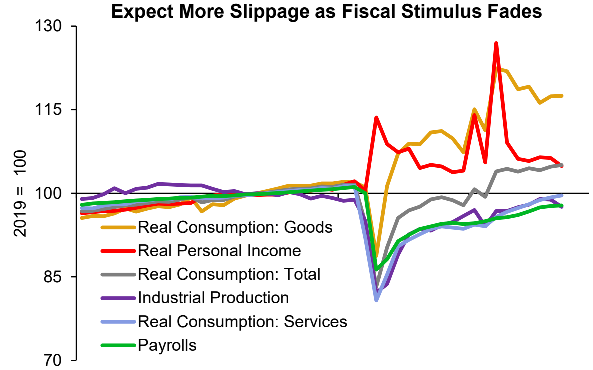
Source: Freightos, TD Securities

Net Pickup In Core Inflation All In Goods (Led By Motor Vehicles)



Shaded bars denote recession periods
Source: BLS, TD Securities

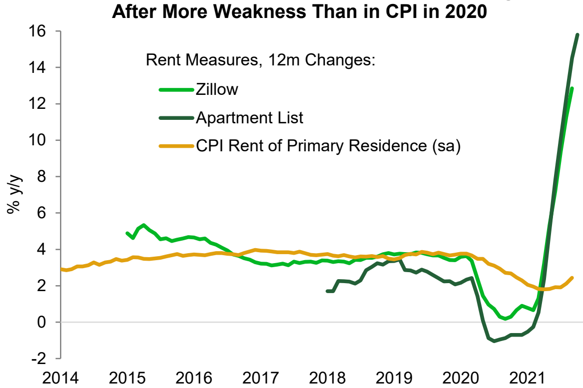
US Goods Demand Appears to Have Peaked; We Expect More Slippage as Fiscal Stimulus Fades



.Source: BEA, BLS, Federal Reserve, TD Securities

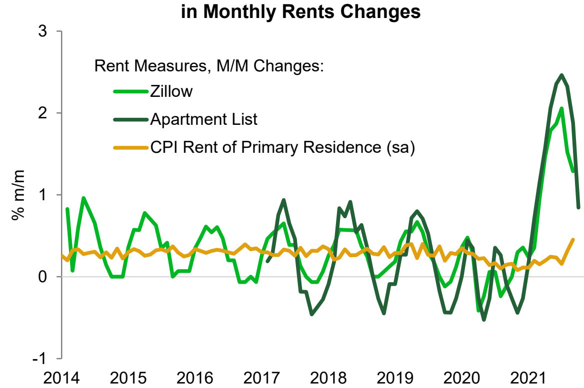
- **Inflation Expectations.** Inflation expectations and related measures have more than reversed COVID-related weakening, but, in general, levels remain low, particularly for the key longer-term series (p14).
- **Long-Term Risks.** In short, while Fed complacency could ultimately result in inflation staying high, we remain skeptical about the trend picking up significantly without a truly tight labor market and a much larger rise in long-term inflation expectations than is evident thus far.

Zillow & Apartment List Rents Data Show a Surge After More Weakness Than in CPI in 2020



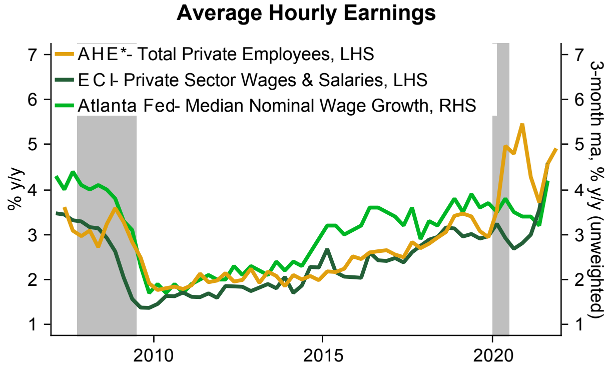
Source: Apartment List, Zillow, BLS, TD Securities

Zillow & Apartment List Data Show Some Moderation in Monthly Rents Changes



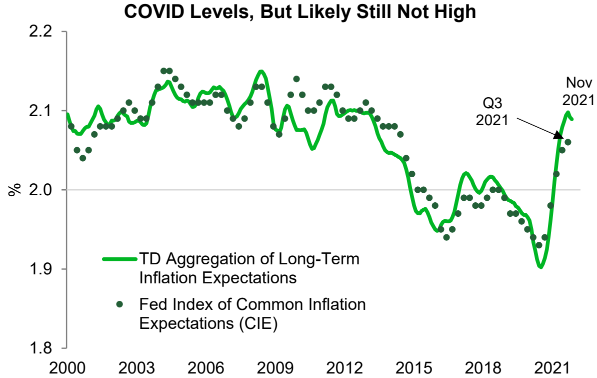
Source: Apartment List, Zillow, BLS, TD Securities

ECI and Atlanta Fed Series Show Less Acceleration Than Average Hourly Earnings



*End-of-quarter readings, except latest for AHE (Oct 2021).
Note: Shaded bars mark recession periods. Source: Atlanta Fed, BLS, TD Securities

Common Inflation Expectations Index Is Above Pre-COVID Levels, But Likely Still Not High



Both series in chart projected onto SPF 10-year-ahead PCE inflation expectations
Source: Federal Reserve, TD Securities

CPI Projections

Total and Core CPI Forecasts						
	Total CPI				Core CPI	
Period	NSA Level	% m/m, nsa	% y/y, nsa	% m/m, sa	% m/m, sa	% y/y, nsa
Jan-20	257.971	0.39	2.5	0.19	0.25	2.3
Feb-20	258.678	0.27	2.3	0.05	0.21	2.4
Mar-20	258.115	-0.22	1.5	-0.32	-0.02	2.1
Apr-20	256.389	-0.67	0.3	-0.70	-0.37	1.4
May-20	256.394	0.00	0.1	-0.10	-0.07	1.2
Jun-20	257.797	0.55	0.6	0.52	0.24	1.2
Jul-20	259.101	0.51	1.0	0.51	0.54	1.6
Aug-20	259.918	0.32	1.3	0.35	0.35	1.7
Sep-20	260.280	0.14	1.4	0.25	0.19	1.7
Oct-20	260.388	0.04	1.2	0.12	0.07	1.6
Nov-20	260.229	-0.06	1.2	0.18	0.17	1.6
Dec-20	260.474	0.09	1.4	0.24	0.04	1.6
Jan-21	261.582	0.43	1.4	0.26	0.03	1.4
Feb-21	263.014	0.55	1.7	0.35	0.10	1.3
Mar-21	264.877	0.71	2.6	0.62	0.34	1.6
Apr-21	267.054	0.82	4.2	0.77	0.92	3.0
May-21	269.195	0.80	5.0	0.64	0.74	3.8
Jun-21	271.696	0.93	5.4	0.90	0.88	4.5
Jul-21	273.003	0.48	5.4	0.47	0.33	4.3
Aug-21	273.567	0.21	5.3	0.27	0.10	4.0
Sep-21	274.310	0.27	5.4	0.41	0.24	4.0
Oct-21	275.895	0.58	6.0	0.68	0.41	4.4
Nov-21	276.480	0.21	6.2	0.47	0.44	4.7
Dec-21	276.859	0.14	6.3	0.29	0.38	5.0
Jan-22	277.930	0.39	6.2	0.21	0.21	5.2
Feb-22	279.039	0.40	6.1	0.20	0.20	5.3
Mar-22	279.868	0.30	5.7	0.20	0.20	5.2
Apr-22	280.499	0.23	5.0	0.17	0.19	4.4
May-22	281.437	0.33	4.5	0.17	0.19	3.8
Jun-22	281.978	0.19	3.8	0.17	0.19	3.1
Jul-22	282.466	0.17	3.5	0.17	0.19	3.0
Aug-22	282.746	0.10	3.4	0.17	0.19	3.1
Sep-22	282.824	0.03	3.1	0.17	0.19	3.0
Oct-22	283.009	0.07	2.6	0.16	0.18	2.8
Nov-22	282.731	-0.10	2.3	0.16	0.18	2.5
Dec-22	282.753	0.01	2.1	0.16	0.18	2.3

Shaded area denotes TD Securities forecasts

Source: BLS, TD Securities

TIPS Breakevens

- **Carry:** Although we expect inflation to moderate in coming months amid the fading of fiscal stimulus, inflation prints could stay elevated in the near term due to persistent supply chain issues and high energy prices. Given our CPI NSA forecasts, TIPS BE carry is expected to stay high in December before softening in Q1 2022. We remain in our long 2y TIPS BEs as a hedge for persistent near term inflation fears.
- **Net issuance:** As the Fed begins tapering QE purchases, net TIPS issuance is set to rise from -$22bn in 2021 to +$45bn in 2022. While this change is likely to occur gradually as the Fed continues to taper through June 2022, we expect long-end real rates to continue rising. We remain short 10y real yields as we think the Fed tapering will prove to be a headwind for the TIPS market.
- **Fair value:** Forward BEs imply a headline CPI of 2.7% even 5 years out. Long-end TIPS BEs look at little rich based on our fair value model, which adjusts for Fed ownership. 10y BE are about 6bp too wide on our model. Valuations are driven by attracted record inflows into TIPS amid the Fed's QE buying. While we expect inflation to moderate in coming months, TIPS BEs could remain high as investors price in inflation remaining high for many years.

TIPS Carry Likely to Moderate in the Coming Months

Month	2y BE	5y BE	10y BE	30y BE
Nov-2021	0.3	0.3	0.4	0.1
Dec-2021	*12.9*	*6.4*	*3.5*	*1.1*
Jan-2022	*-1.5*	*-0.6*	*-0.1*	*-0.1*
Feb-2022	*-4.4*	*-2.0*	*-0.7*	*-0.3*
Mar-2022	*5.6*	*2.7*	*1.6*	*0.4*
Apr-2022	*7.3*	*3.3*	*1.8*	*0.5*

Note: All values are in basis points and measured month-on-month. TIPS BE carry starting in December 2021 is calculated based on TD NSA CPI forecast.
Source: Bloomberg, TD Securities

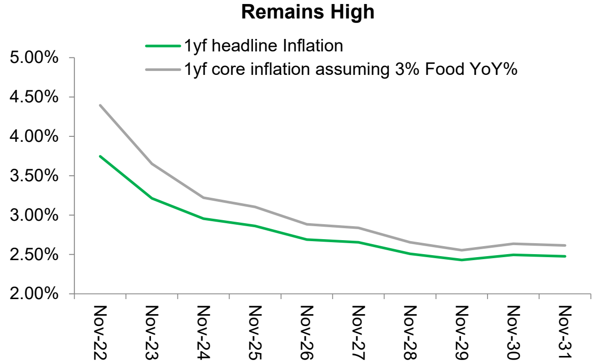
Net TIPS Issuance Set to Increase Amid a Decline in Fed Buying

Calendar Year	Net Issuance	Fed Purchases	Issuance Net of Fed
2016	50	0	50
2017	46	0	46
2018	41	0	41
2019	63	0	63
2020	39	173	-134
2021	*60*	*80*	*-20*
2022	*57*	*12*	*45*
2023	*46*	*0*	*46*

Note: 2021-2023 based on TD Securities projections.

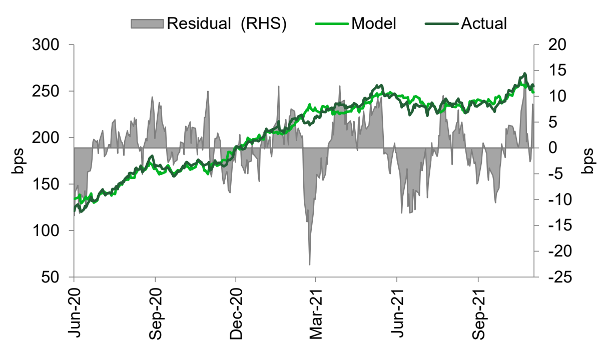
Source: Treasury, TD Securities

Makret Implied Forward Inflation Moderates but Remains High



Note: In our analysis, energy inflation till 2023 is estimated using CL future, with pass-through rate of 60% and weight 6.9%. Energy inflation is assumed to be 0% after 2023. Annual food inflation weight is assumed to be 14.0%.
Source: Bloomberg, TD Securities

10y TIPS BE Are Trading Slightly Above Fair After Adjusting for Fed QE



Note: Our 10yr BE model is based on historical 5s30s curve, UST liquidity, 3y1y OIS forward, DXY, gasoline future price and Fed ownership.
Source: Bloomberg, TD Securities

Priya Misra, Gennadiy Goldberg, Penglu Zhao

What's Up, What's Down?

The 4.0% y/y for the core CPI almost certainly overstates the trend: Some of the strength reflects a reversal of weakness early in the pandemic (base effects), and strength in vehicle prices in particular looks exaggerated. The core index is up at a 3.1% AR in the 19 months since February 2020, up from 2.4% in the previous year, with the pickup more than accounted for goods. Used vehicle prices in particular have surged; we expect that surge to be at least partly reversed in 2022.

Net Pickup in Core Inflation Accounted for by Used Vehicles

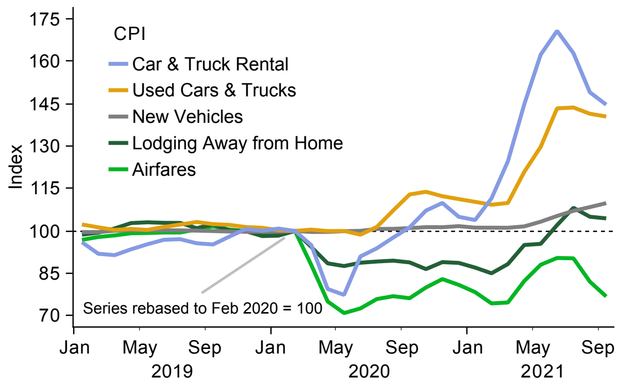
	Relative Importance (%)*	% Chg, m/m		% Chg. From 12 Months Earlier			% Chg, AR			
		Aug 2021	Sep 2021	Jul 2021	Aug 2021	Sep 2021	12 Months Through Feb 2020	19 Months Since Feb 2020	Accel/Decel (Pct. Pts.)	Contribution to Accel/Decel (Pct Pts)
Total CPI	**100.0**	**0.3**	**0.4**	**5.4**	**5.3**	**5.4**	**2.3**	**3.7**	**1.4**	**1.4**
Food	14.0	0.4	0.9	3.4	3.7	4.6	1.8	4.7	2.9	0.4
At Home	7.7	0.4	1.2	2.6	3.0	4.5	0.8	4.8	4.0	0.3
Away From Home	6.3	0.4	0.5	4.6	4.7	4.7	3.0	4.6	1.6	0.1
Energy	7.3	2.0	1.3	23.8	25.0	24.8	2.8	8.8	6.0	0.4
Core (Ex Food & Energy)	**78.7**	**0.1**	**0.2**	**4.3**	**4.0**	**4.0**	**2.4**	**3.1**	**0.7**	**0.6**
Alcoholic Beverages	1.0	0.3	0.2	2.4	2.6	2.8	0.9	2.6	1.8	0.0
Rent Of Primary Residence	7.6	0.3	0.5	1.9	2.1	2.4	3.8	2.4	-1.4	-0.1
Owners' Equivalent Rent (OER)	23.6	0.3	0.4	2.4	2.6	2.9	3.3	2.6	-0.7	-0.2
Lodging Away From Home	1.0	-2.9	-0.6	21.5	17.4	17.5	0.8	2.8	2.0	0.0
Water/Sewer/Trash Collection	1.1	0.3	0.5	3.7	3.5	3.7	3.2	3.6	0.4	0.0
Household Furnishings	4.7	1.3	1.0	3.8	4.0	5.1	0.7	4.8	4.0	0.2
Apparel	2.7	0.4	-1.1	4.2	4.2	3.4	-0.9	-1.5	-0.5	0.0
New Vehicles	3.8	1.2	1.3	6.4	7.7	8.8	0.4	6.1	5.7	0.2
Used Cars & Trucks	**3.3**	**-1.5**	**-0.7**	**41.7**	**31.9**	**24.4**	**-1.3**	**23.9**	**25.3**	**0.6**
Leased Cars & Trucks	NA	NA	NA	NA	NA	NA	-3.6	NA	NA	NA
Car & Truck Rental	0.2	-8.5	-2.9	73.5	52.6	42.9	8.6	26.3	17.7	0.0
Motor Vehicle Parts & Equip.	0.4	1.7	0.8	4.3	6.1	6.9	2.1	4.2	2.1	0.0
Public Transportation	1.0	-5.5	-5.0	14.0	8.4	1.6	1.6	-9.3	-10.9	-0.1
Airline Fare	0.6	-9.1	-6.4	19.0	6.7	0.8	2.4	-15.3	-17.7	-0.1
Medical Care	8.5	0.2	0.0	0.3	0.4	0.4	4.6	1.6	-3.0	-0.3
Commodities	1.5	-0.2	0.3	-2.1	-2.5	-1.6	1.8	-1.3	-3.1	0.0
Services	7.0	0.3	-0.1	0.8	1.0	0.9	5.3	2.2	-3.1	-0.2
Recreation	5.7	0.5	0.2	3.5	3.4	3.5	1.5	2.4	0.9	0.1
Education	2.9	0.0	0.4	1.2	1.4	2.0	2.2	1.5	-0.6	0.0
Communication	3.6	0.3	0.4	1.1	1.0	1.5	1.0	2.3	1.4	0.1
Other	3.1	0.4	0.1	2.9	3.5	3.4	2.7	2.6	0.0	0.0

*As of August 2021. Source: BLS, TD Securities

Used Vehicle Prices Rising Again

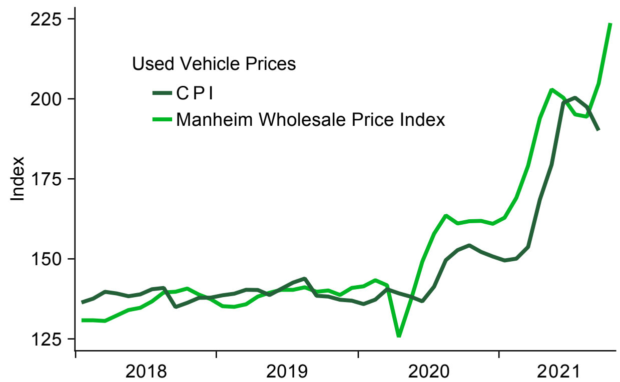
- Used vehicle prices in the CPI fell 1.5% m/m in August and 0.7% m/m in September, but renewed strengthening is likely following another surge in the Manheim wholesale index. We expect significant weakening in the year ahead, but, for now, the market still looks tight.

Large Net Rise in Used Vehicle and Car Rental Prices



Source: BLS, TD Securities

Used Vehicle Prices Have Started Surging Again

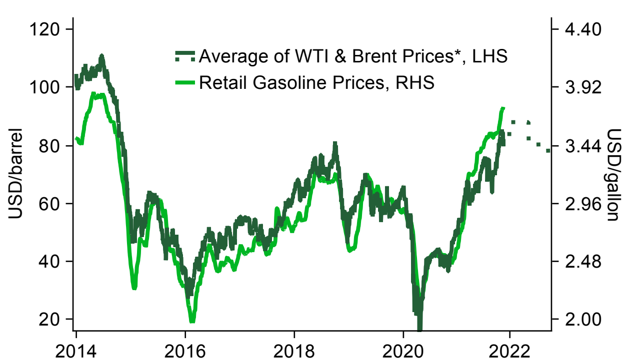


Source: Manheim Consulting, U.S. Bureau of Labor Statistics (BLS), TD Securities

Y/Y Inflation Stronger for Total than Core

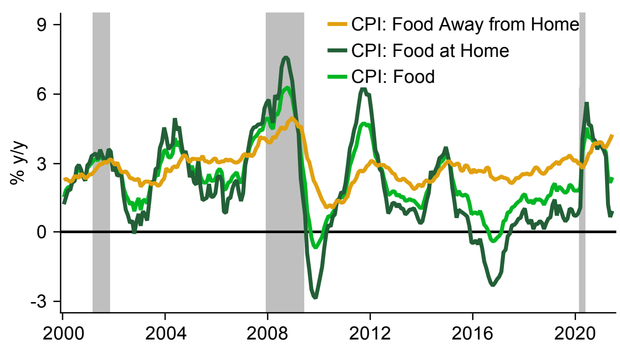
- Oil and natural gas prices been surging, with the rise in oil in particular feeding through quickly into (gasoline) prices at the retail level. The impact of surging natural gas prices is attenuated by utilities locking into long-term contracts and gas consumption having a relatively small weight (0.8% of the CPI, vs 3.8% for gasoline). Our commodity analysts are forecasting some easing in energy prices in 2022.
- Food inflation has slowed relative to 2020, but the food-away-from-home part is being boosted now by rising labor costs. We expect gains to slow in as labor supply picks up.

Oil and Gasoline Prices Have Been Surging; Relief by Late 2022?



*Dotted line represents TDS forecasts. Source: DOE, TD Securities

Food at Home Prices Have Slowed; Food Away From Home Prices Picking Up

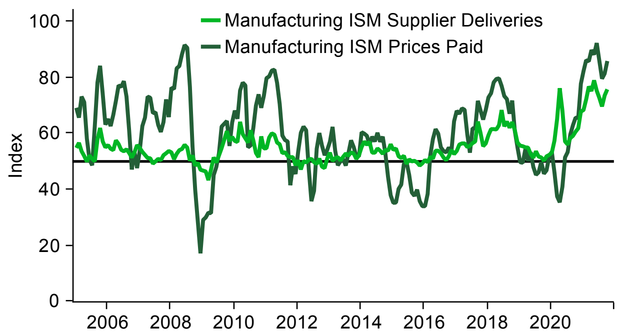


Shaded bars denote recession periods
Source: BLS, TD Securities

ISM Price Indexes Boosted By Commodities, Especially Oil

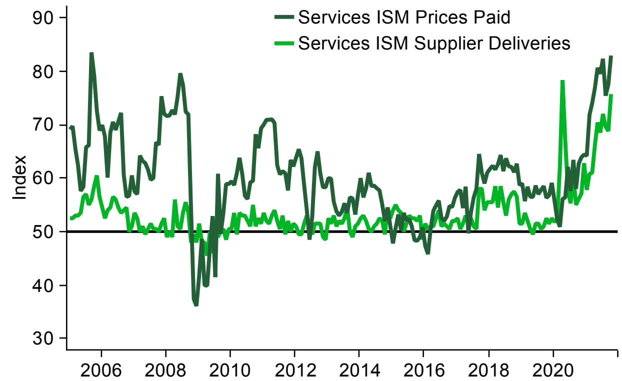
- The ISM price indexes may have peaked, but levels remain high. Except for energy prices, they are typically more indicative of inflation pressures at the commodity and intermediate goods levels than the consumer level. The deliveries indexes remain high as well (signaling slowing in deliveries times).

Slight Net Easing in Manufacturing ISM Price and Deliveries Indexes; They Typically Reflect Crude & Intermediate Goods Pressures



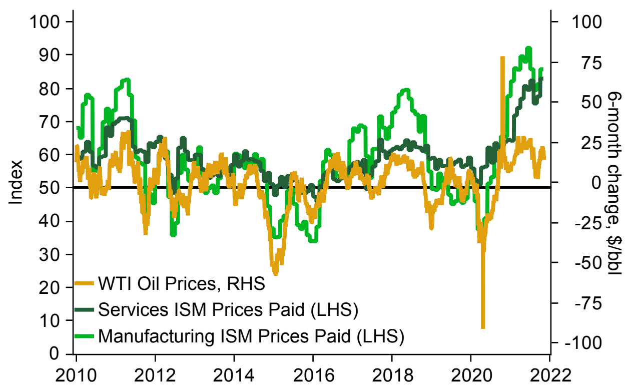
Source: Institute for Supply Management (ISM), TD Securities

Services ISM Price Index Just Rose to a New High



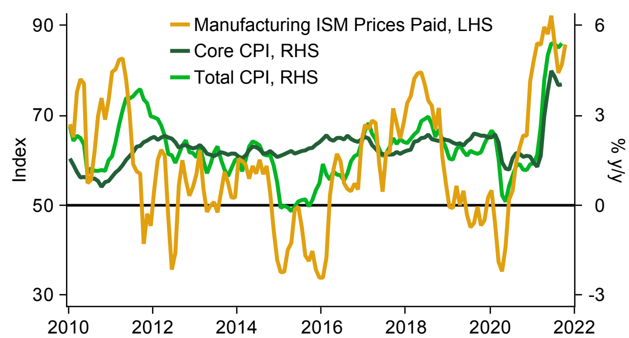
Source: Institute for Supply Management (ISM), TD Securities

ISM Price Indexes Rise and Fall With Oil Prices



Source: Institute for Supply Management (ISM), Bloomberg, TD Securities

Swings In ISM Price Indexes Are Usually Mirrored In Total CPI, Due to Oil, But Not Core to Any Significant Degree; This Year's Core Pickup Has Been Led by Travel Items

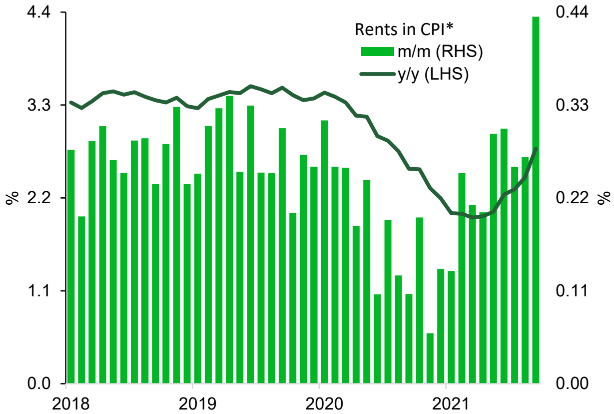


Source: BLS, TD Securities

Reacceleration in Rents

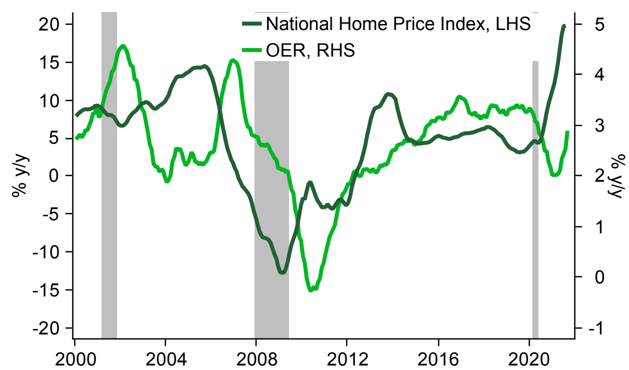
- The degree of strength in the CPI rents measures on an m/m basis looked exaggerated in the September report, but trends have clearly accelerated after significant slowing. In turn, further acceleration on a y/y basis is likely. The degree of strength being signaled by some private sector data (e.g., from Zillow and Apartment List) is unlikely to be reflected in the CPI, however; the same data showed much more weakening than the CPI in 2020. The private sector data only cover the turnover part of the market, while the CPI covers the entire market. The private sector data continue to rise rapidly, but the pace has started to moderate as the boost from reopening fades.

Reacceleration in Rents



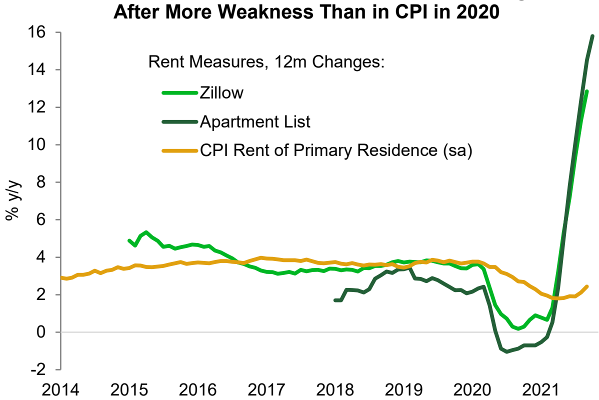
*Weighted average of rent of primary residence and owners' equivalent rent
Source: BLS, TD Securities

No Tight Relationship Between House Prices and Rents



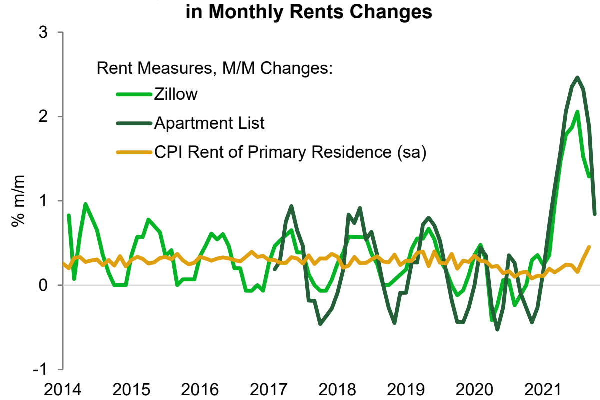
Shaded bars denote recession periods
Source: BLS, S&P CoreLogic, TD Securities

Zillow & Apartment List Rents Data Show a Surge After More Weakness Than in CPI in 2020



Source: Apartment List, Zillow, BLS, TD Securities

Zillow & Apartment List Data Show Some Moderation in Monthly Rents Changes

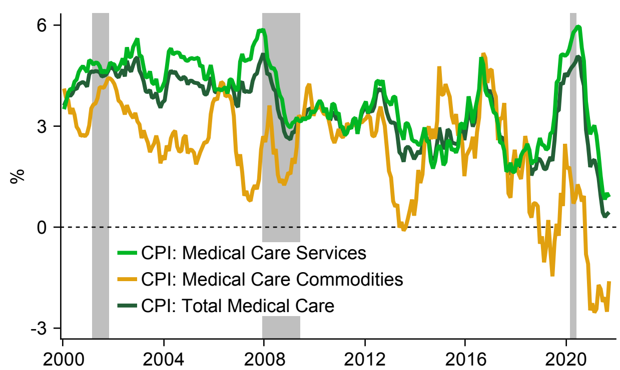


Source: Apartment List, Zillow, BLS, TD Securities

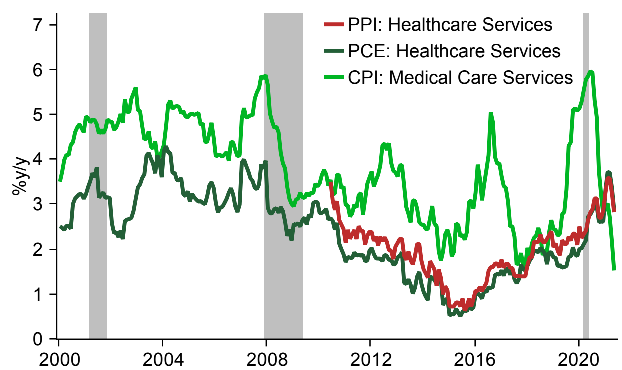
Medical Care: CPI vs. PCE

- One key source of difference between the CPI and the PCE price index is medical care services inflation. (The medical goods inflation parts are identical.) The CPI reflects potential out-of-pocket costs as well as a measure of health insurance premiums that is derived indirectly from health insurance companies' retained earnings. The PCE index reflects spending paid for by government programs and employer-funded insurance as well as by individuals; it is based on data from the PPI. As of September, the CPI medical services measure was 0.9% y/y, down from 4.9% one year earlier, while the comparable PCE series was 2.6% y/y, down from 3.0% one year earlier. Despite different data sources, both sets of data were boosted at the start of 2021 by a change in Medicare pricing included in the $0.9tn fiscal stimulus package enacted in December. Note also that medical care has a much smaller weight in the CPI (9%) than in the PCE index (20%).

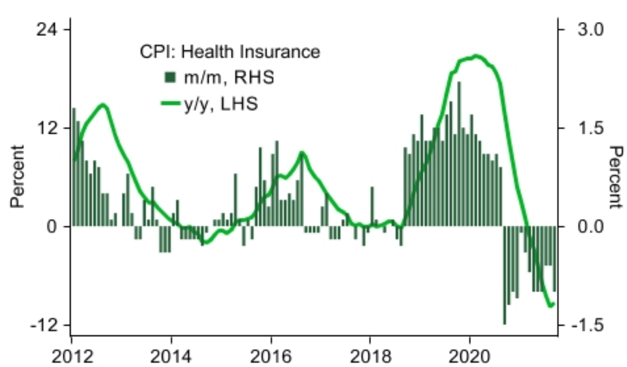
- Within the CPI medical services series, the health insurance component in particular has slowed sharply, from up to down. It is about to move up sharply again, however, reflecting the annual updating to reflect retained earnings at insurance companies; the stronger pace will largely continue until the next update in late 2022.



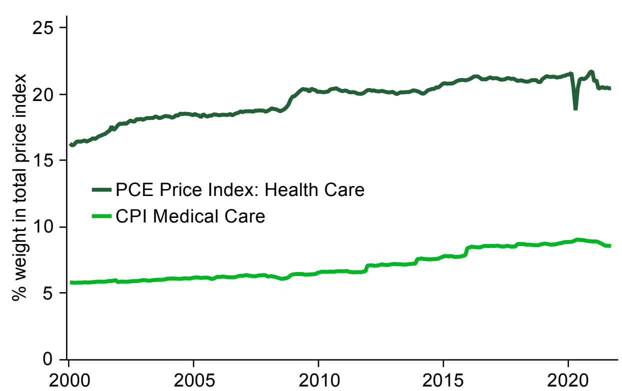
Shaded bars denote recession periods
Source: BLS, TD Securities



Shaded bars denote recession periods
Source: BLS, BEA, TD Securities



Source: BLS, TD Securities

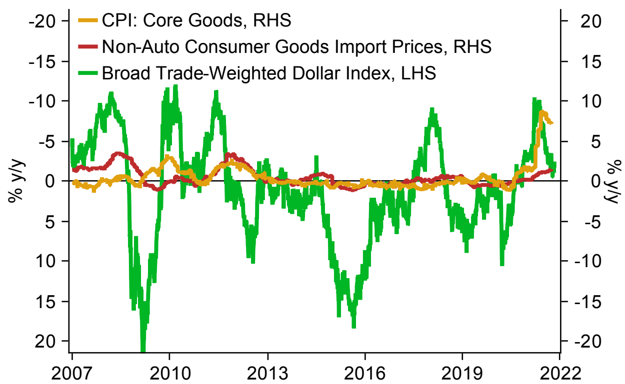


Source: BLS, BEA, TD Securities

Modest Boost From Dollar

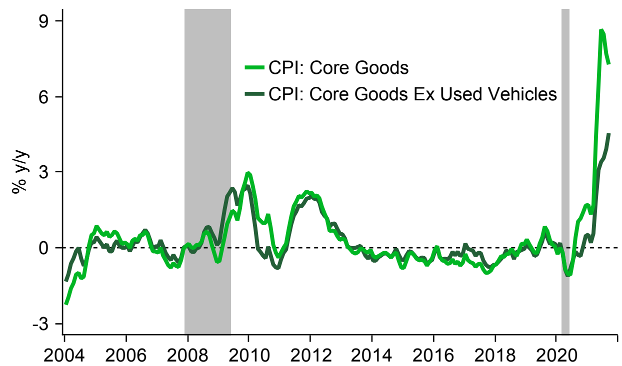
- The Fed's broad trade-weighted dollar index was -1.4% y/y in October. That is positive for inflation, but only marginally, probably adding no more than 0.1pt to y/y readings. Passthrough from currency swings has declined over time, with importers increasingly absorbing fluctuations in profit margins.
- We see only modest acceleration in consumer goods import prices, with the caveat that the data are mostly "f.o.b." rather than "c.i.f.," and freight costs have picked up. While the core goods CPI has picked up significantly, much of the pickup reflects the past year's surge in used vehicle prices; that surge is largely domestic in origin.

Low Passthrough From Dollar to Consumer Prices



Source: Federal Reserve, BLS, TD Securities

...Pickup in Core Goods CPI Led by Used Vehicles



Shaded bars denote recession periods
Source: BLS, TD Securities

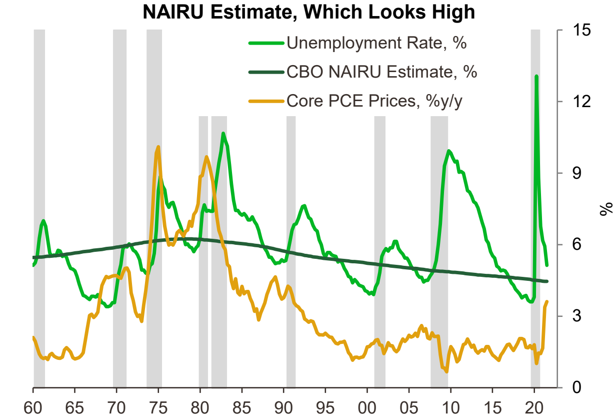
Slack Still Important

- Slack appears to have become less important than it used to be for driving inflation trends, but we believe it still plays a role. That said, measurement is challenging.
- As of Q3, GDP was 1.7% below the CBO estimate for potential GDP. Moreover, we believe the CBO estimate for potential is too low. CBO analysts are assuming a non-accelerating inflation rate of unemployment (NAIRU) of around 4.5%, which looks too high.

We Expect GDP to Remain Below the CBO Estimate for Potential Through 2022

Source: BEA, CBO, TD Securities

CBO's Potential GDP Estimate is Based on a 4.5% NAIRU Estimate, Which Looks High



Shaded bars denote recession periods. Source: BLS, BEA, CBO, TD Securities

Labor Cost Data Distorted by COVID

- Strength in average hourly earnings on an m/m basis in recent months is consistent with some employers having difficulty finding workers, even with a still-high unemployment rate; some potential employees have likely remained fearful of COVID, or unable to find childcare, or in no rush to find a job because of ample savings. That said, the data are highly volatile and subject to mix shifts, and we are skeptical about labor costs showing significant acceleration on a sustained basis with employment down sharply from pre-COVID levels. Also, the ECI and the Atlanta Fed wage tracker series have shown less strength than average hourly earnings, with data through Q3 and September, respectively. The Atlanta Fed series does show a clear pickup this year for low-skill workers, however.

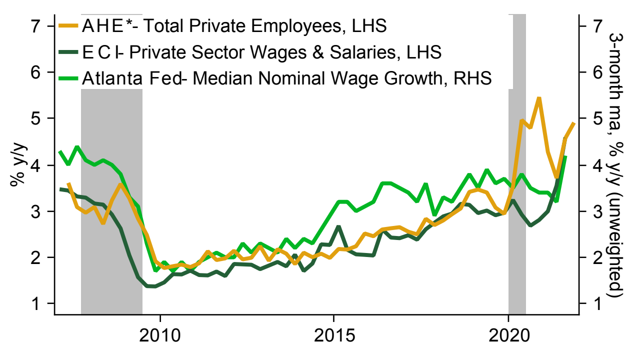
- The NFIB series tracking firms with unfilled job openings has surged, consistent with special factors temporarily hold down labor supply, even with a still-high unemployment rate. We suspect some of the strength reflects partisan criticism of the Biden administration's policies (including supplemental unemployment benefits); NFIB members appear to be disproportionately Republicans.

Recent Sectoral Trends in Average Hourly Earnings

	Level ($/hr.)	% Chg. From 12 Months Earlier				% Chg, m/m		
	Oct 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021	Aug 2021	Sep 2021	Oct 2021
Total Private	**31.0**	**4.0**	**4.1**	**4.6**	**4.9**	**0.4**	**0.6**	**0.4**
Mining & Logging	35.6	1.4	2.1	1.9	1.9	0.6	0.1	0.0
Construction	33.4	3.9	4.0	4.5	4.7	0.4	0.5	0.4
Manufacturing	30.2	3.4	3.2	3.9	4.5	0.3	0.5	0.4
Trade, Transp. & Utilities	26.7	4.7	4.3	4.3	4.9	0.1	0.6	0.0
Information	44.6	0.4	0.6	0.9	-0.5	0.0	0.1	0.5
Financial Activities	40.6	6.4	5.2	5.4	4.9	-0.2	0.5	0.7
Professional & Bus. Svcs.	37.4	4.6	4.8	5.1	5.7	0.6	0.4	0.7
Education & Health Svcs.	30.4	4.4	4.8	5.7	5.9	0.7	1.1	0.2
Leisure & Hospitality	19.0	9.8	10.1	10.3	11.2	1.1	0.4	1.0
Other Services	27.6	2.2	3.2	3.5	4.0	0.4	0.2	0.3

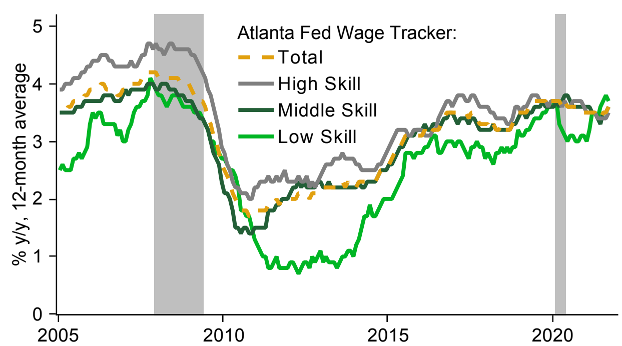
Source: BLS, TD Securities

ECI and Atlanta Fed Series Show Less Acceleration Than Average Hourly Earnings



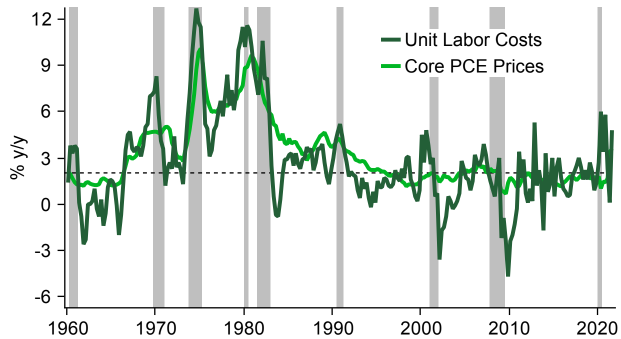
*End-of-quarter readings, except latest for AHE (Oct 2021).
Note: Shaded bars mark recession periods. Source: Atlanta Fed, BLS, TD Securities

Atlanta Fed Data Show Net Strengthening in Wages for Low-Skill Jobs, But Not in Aggregate



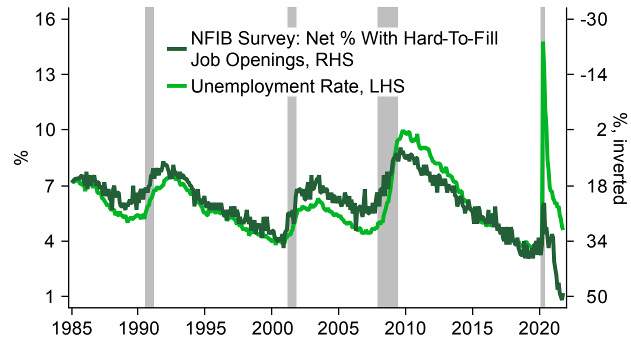
Shaded bars denote recession periods
Source: Federal Reserve Bank of Atlanta, TD Securities

Unit Labor Cost Data Have Been Distorted by COVID-Related Mix Shifts



Shaded bars denote recession periods
Source: BEA, TD Securities

NFIB Vacancies Series Suggests Much More Tightness Than Unemployment Rate

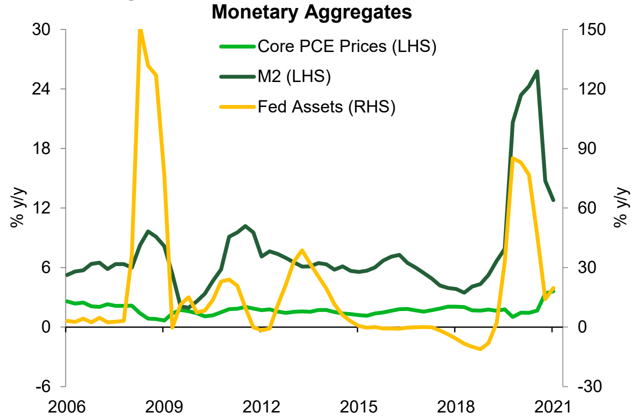


Note: Shading denotes recession periods.
Source: NFIB, BLS, TD Securities

MV = PT?

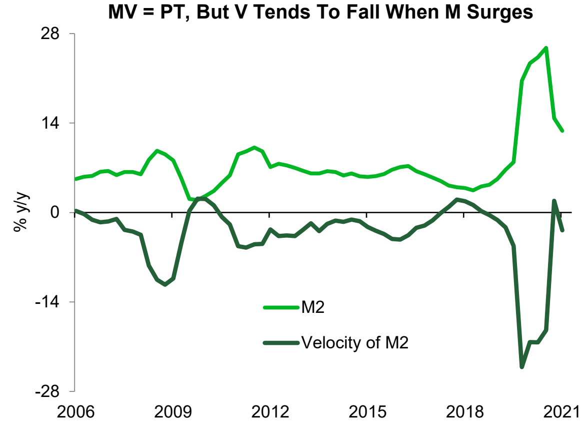
- We believe the boost to inflation from monetary stimulus is via the impact on the real economy and inflation expectations over time, not directly from the monetary aggregates. V tends to plunge when M surges.

No Tight Link Between Inflation and Fed Assets or Monetary Aggregates



Source: BEA, Federal Reserve, TD Securities

MV = PT, But V Tends To Fall When M Surges

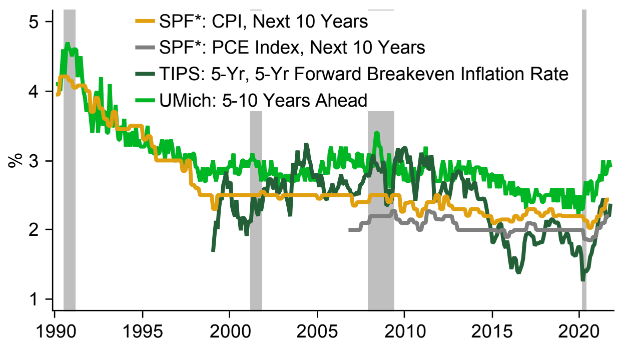


Source: Federal Reserve Board, BEA, TD Securities

Still-Low Long-Term Inflation Expectations

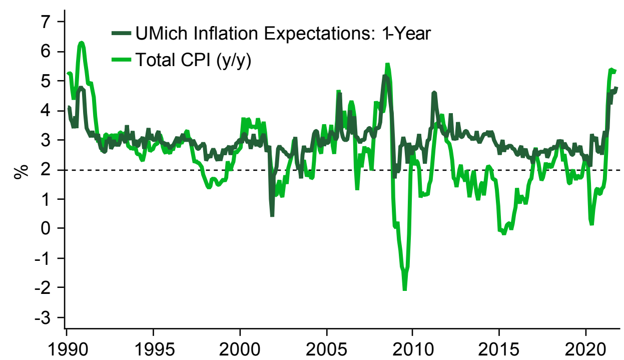
- Inflation expectations and related measures have more than reversed COVID-related weakening, but levels are still relatively low, particularly for the key longer-term measures. That is the message from the Fed's common inflation expectations (CIE) index.
- Some of this year's swings in TIPS break-evens (BEs) likely reflects changing risk premiums, not inflation expectations. TIPS BEs have tended to rise and fall with oil prices, and not just short-term BEs. Even five-year-five-year-forward measures tend to move up and down with oil prices, even though current swings in oil prices should not have any significant impact on inflation expectations five-to-ten years out.

Long-Term Inflation Expectations Measures Generally Remain Low



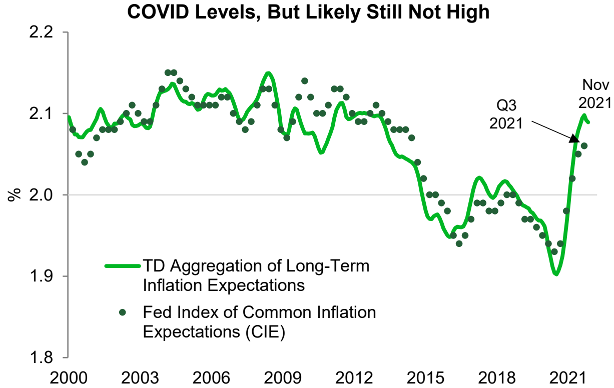
*Survey of Professional Forecasters. Shaded bars denote recession periods
Source: Federal Reserve, University of Michigan, TD Securities

Short-Term Inflation Expectations are Especially Sensitive to Latest Inflation Data



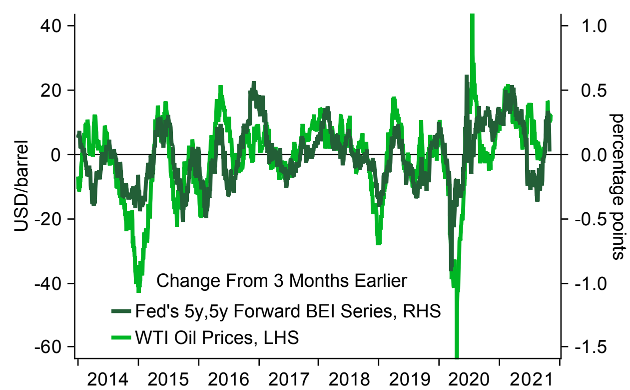
Source: University of Michigan, BLS, TD Securities

Common Inflation Expectations Index Is Above Pre-COVID Levels, But Likely Still Not High



Both series in chart projected onto SPF 10-year-ahead PCE inflation expectations
Source: Federal Reserve, TD Securities

5y5yF BEs Go Up and Down With Oil Prices



Source: Federal Reserve, Bloomberg, TD Securities