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2022 US Economics Outlook | North America

The Great Inventory Build

Delayed activity pushes growth into next year, driven by supply-chain easing, inventory building, and catch-up in deferred demand. Inflation begins to moderate after February, and the labor market nears maximum employment by year-end. The Fed completes tapering mid-22 and first lifts rates in 1Q23.

A sizeable inventory build is coming. We expect continued easing of supply-chain bottlenecks toward more normalized flow by end-2022. Increased availability of goods satisfies deferred demand in 1H22, while the contribution to GDP from inventory building is greatest in 2H22. From 2021 to 2022, the swing in inventory contribution is +1.2pp. We have lifted the forecast for 2022 real GDP growth by 1.7pp, to 4.9% 4Q/4Q. We initiate our forecast for 2023 GDP growth at 3.1% 4Q/4Q. See Outlook in a Nutshell.

Demand for services and growth in labor income propel consumer spending. Compositionally, consumer wallet share should continue to shift away from goods and toward services as Covid restrictions continue to fade and consumer comfort levels continue to improve. Still, deferred demand in 2H21 lifts spending on goods in 1H22. In 2022, worker compensation overtakes government transfers as the main driver of income. We forecast PCE to grow by 3.3% 4Q/4Q (3.2%Y) in 2022, followed by 3.0% in 2023 (3.1%Y). See Consumer Spending.

Business investment remains an important engine powering the US economic recovery. The level of investment has already returned to pre-Covid peaks, albeit with mixed dynamics across details. Overall, we see private capex growing 7.9% 4Q/4Q in 2021 (7.7%Y), 5.9% in 2022 (5.9%Y), and 5.3% in 2023 (5.6%Y), contributing 1.0pp, 0.8pp, and 0.7pp to 4Q/4Q real GDP growth in those years, respectively. See Investment, Trade, & Inventories.

The labor market is close to maximum employment by end-22. Robust economic growth and fading health concerns prompt a strong recovery in prime age labor force participation. The unemployment rate ends 2021 at 4.7% in 4Q, falling further to 3.6% in 4Q22 and 3.2% in 4Q23. See Labor Market Outlook.

Inflation pressures in pandemic-sensitive goods and services prices last longer. Core PCE inflation ends 2021 at 3.9%Y. While we continue to see core PCE inflation at 2.4%Y in December 2022, the path between now and then is meaningfully higher. Core PCE inflation begins to glide off of its peaks after February next year, before slowing sequentially. In 2023, core PCE inflation moderates further to 2.0%Y by year-end. See Inflation

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Outlook.

An earlier start to the hiking cycle. In June 2022, the Fed has completed tapering its LSAPs and deepened its deliberation over when to begin removing monetary policy accommodation. Stronger growth, sustained higher inflation, and a tightening labor market lead the Fed to lift rates in 1Q23, one quarter earlier than we previously expected. Removing policy accommodation only gradually leads to two 25bp hikes/year. See Monetary & Fiscal Policy: Room to Breathe.

Outlook in a Nutshell

The Great Inventory Build – Base Case

We are tracking real GDP growth this year at 4.9% 4Q/4Q (5.5%Y), and have lifted the forecast for 2022 growth by 1.7pp to 4.9% 4Q/4Q (4.6%Y). We initiate our forecast for 2023 GDP growth at 3.1% 4Q/4Q (3.7%Y). Our forecasts for economic growth next year are more optimistic when compared to the September Summary of Economic Projections from the FOMC (2022: 3.8%), and Bloomberg consensus (2022: 3.6%). See How We Compare.

A sizeable inventory build is coming. We expect continued easing of supply-chain bottlenecks toward more normalized flow by end-2022. Increased availability of goods satisfies deferred demand in 1H22, while the contribution to GDP growth from inventory building is greatest in 2H22. From 2021 to 2022, the swing in inventory contribution is +1.2pp, moving from a drag of -0.2pp on 4Q/4Q growth in 2021 to a lift of 1.0pp on 4Q/4Q growth in 2022. **The substantial swing in inventories as clogged supply chains ease is the greatest story for the 2022 outlook yet untold.**

The global Covid Capex Cycle is underway with the US experiencing the strongest capex cycle since the 1940s. Investment in intellectual property products and equipment grew at an annualized double-digit pace in 2H21, and we expect these sectors will continue to lead in the year ahead. Bottlenecks have slowed investment in 2H22, but **measures of capex plans remain strong and the pipeline of backlog orders suggests business investment will remain an important engine powering the US economic recovery.**

A so-called cliff in governments benefits has led to undue angst over the outlook for household income and spending. Instead, **the handoff from government transfers to labor income as the primary driver of growth in personal income has been unusually smooth.** By September 2021, jobs gains coupled with increased hours worked and stronger wage growth had made up for wage compensation losses accumulated throughout Covid. Excess savings continues to offer a significant safety net, particularly for the bottom 80% of US households.

Our latest AlphaWise Consumer Pulse Survey revealed that worries about inflation have usurped Covid-19 as the top concern for 2022. Thus far, **increased buying power has helped households power through rising inflation.** Moreover, in our forecasts, strong demand for labor is met by increased labor force participation of prime-age workers. Higher participation will dampen, but not extinguish, wage pressures, which will further help lower-income households cope with higher price levels. Overall, we forecast spending to remain elevated, growing by 3.3% 4Q/4Q in 2022 (3.2%Y) and 3.0% in 2023 (3.1%Y).

Inflation pressures in pandemic-sensitive goods and services prices last longer. Core PCE inflation ends 2021 at 3.9%Y. While we continue to see core PCE inflation at 2.4%Y in December 2022 (2.3%Y in 4Q22), the path between now and then is meaningfully higher. Core PCE inflation begins to glide off of its peaks after February next year,

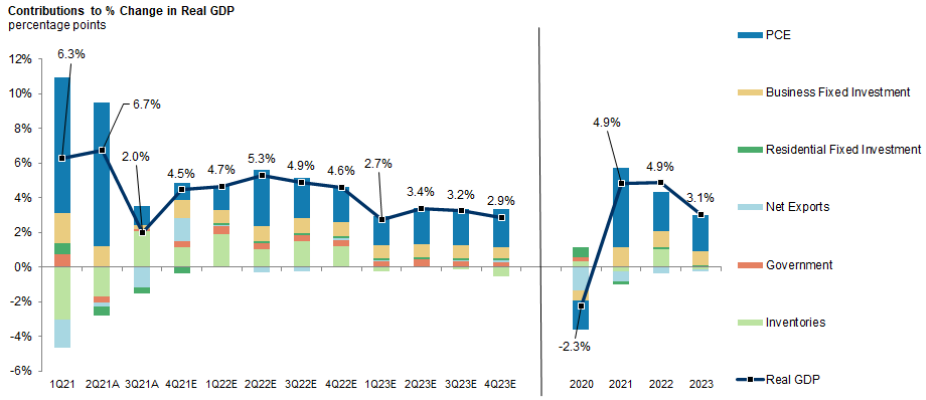
before slowing sequentially. By May, we forecast core PCE at 2.9%Y, 2.3%Y, and 2.2%Y on a 12-month, 3-month, and 6-month annualized basis, respectively. In 2023, core PCE inflation moderates further to 2.0%Y by year-end.

An earlier start to the hiking cycle. In June 2022, the Fed will have completed tapering its LSAPs and deepened its deliberation over when to begin removing monetary policy accommodation. Stronger growth, sustained higher inflation, and a tightening labor market leads the Fed to lift rates in 1Q23, one quarter earlier than we previously expected. Removing policy accommodation only gradually leads to two 25 hikes/year.

Overall, we see risks to the outlook skewed somewhat toward the downside, with primary risks – both to the upside and the downside – stemming from labor supply and supply chains (see Bull/Bear Scenarios).

Exhibit 1 and Exhibit 2 detail the contribution to GDP growth from its subcomponents and projected growth rates, while Exhibit 3, Exhibit 4, and Exhibit 5 compare our 2022 forecast for GDP, unemployment, and core PCE inflation to consensus and the FOMC. See the Full Forecast Table for forecast details and here for our full forecast table in Excel format.

Exhibit 1: 2022 US Economic Outlook: Contributions to Percent Change in Real GDP



Note: Annual figures for 2019, 2020, and 2021 reflect 4Q/4Q percent change.
Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 2: 2022 US Economic Outlook: Forecast Summary

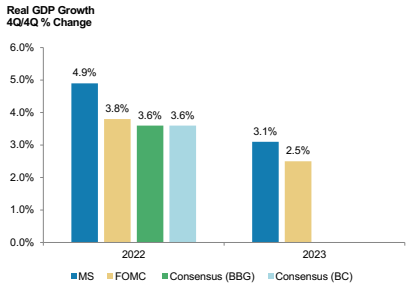
			New Forecast		
(4Q/4Q % Change)	2019	2020	2021	2022	2023
Real GDP	2.6	-2.3	4.9	4.9	3.1
Final Sales	2.9	-2.6	5.1	3.8	3.2
Final Domestic Demand	2.5	-1.3	5.3	3.9	3.1
PCE	2.3	-2.4	6.5	3.3	3.0
Business Fixed Investment	3.1	-3.8	7.9	5.9	5.3
Residential Fixed Investment	2.2	15.7	-4.4	3.5	3.1
Exports	0.3	-10.7	2.5	8.2	6.8
Imports	-2.1	0.3	4.9	7.4	5.2
Government	3.2	1.2	1.2	2.2	2.0
CPI	2.0	1.2	6.6	3.0	2.2
Core PCE	1.6	1.4	3.9	2.3	2.0
Unemployment Rate*	3.6	6.8	4.7	3.6	3.2

* Unemployment rate refers to 4Q average in the year indicated.
Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Morgan Stanley Research forecasts

How We Compare

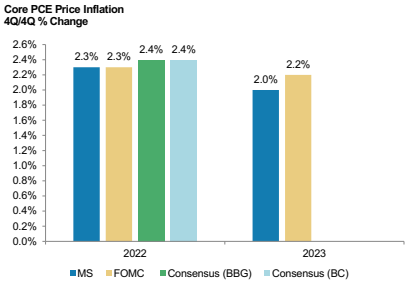
Exhibits 3–5 compare our forecasts to those of the consensus of economists, as well as the September economic projections of the FOMC. In 2022, on a 4Q/4Q basis, **we are above consensus and the FOMC for GDP, in line for core PCE, and lower on the unemployment rate.**

Exhibit 3: GDP Forecast Comparison



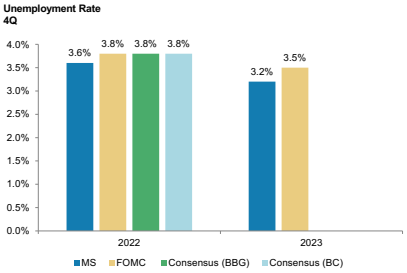
Note: FOMC Projection is from September 2021 Summary of Economic Projections, November Blue Chip survey.
Source: Blue Chip, Federal Reserve Board, Bloomberg, Morgan Stanley Research forecasts

Exhibit 4: Core PCE Inflation Forecast Comparison



Note: FOMC Projection is from September 2021 Summary of Economic Projections, November Blue Chip survey.
Source: Blue Chip, Federal Reserve Board, Bloomberg, Morgan Stanley Research forecasts

Exhibit 5: Unemployment Rate Forecast Comparison



Note: FOMC Projection is from September 2021 Summary of Economic Projections, November Blue Chip survey.
Source: Blue Chip, Federal Reserve Board, Bloomberg, Morgan Stanley Research forecasts

Bull/Bear Scenarios

Given the unprecedented nature of the Covid pandemic, the uncertainty about the outlook remains higher than the historical norm. At the heart of much of the inflation and growth story is the global supply chain. Consequently, we consider a bear case scenario where the supply side worsens and stays disrupted for longer, and a bull case scenario where the supply-side disruptions are fixed sooner than assumed in the baseline. The nature of supply shocks is that growth and inflation pressure go in opposite directions.

Supply-side bear case

Slower-than-expected growth stems from a more subdued labor market recovery. Many of the Covid-related distortions in labor markets become permanently embedded, and wage pressures persist. Should this coincide with extended supply-chain disruptions, core inflation is likely to persist at higher levels for longer as well. In this scenario, we could see real GDP growth below the baseline by as much as 2.8pp, but inflation 0.7pp or more above the baseline, and, with more sustained inflation, the risk that inflation expectations move up uncomfortably high looms as well. As such, we may see an earlier and more rapid withdrawal of policy support blunting economic growth by weighing on interest-sensitive activities and/or the capex cycle, which have been primary drivers of growth. The Fed begins to hike rates in the middle of 2022.

Demand-side bear case

A turbulent transition for the consumer comes after a strong run for goods consumption experiences severe payback, while Covid continues to hang over services spending, leaving consumption without a counterbalance. This scenario would likely see the labor market recovery stall, and with goods demand down, inflation would run out of steam, leading to more muted prices. In this scenario we also assume that slower growth pushes oil prices down to about $68/bbl in 2022. The Fed does not first lift rates until the end of 2023.

Supply-side bull case

A faster and more robust recovery in labor supply primes the economy for swifter growth in 2022, particularly as this would likely coincide with a fuller recovery in service sector activity. While aggregate demand growth would be more robust in this scenario, the supply-side expansion would also mean that we should see wage and inflationary pressures abating notably. Headline inflation is higher than in the baseline due to higher oil prices, but core inflation is not. Rather than core CPI inflation being close to 3%Y in 2022, we see it at just under 2%Y in the supply-side bull scenario. As such, with strong labor market conditions but more limited core inflation, the Fed would likely feel less pressure to increase interest rates, providing a more sustained backdrop of accommodative financial conditions as an additional tailwind to growth.

Exhibit 6: 2022 US Economic Outlook: Bull and Bear Scenarios

Bull-Bear Scenarios

(%Y)	2020	2021	2022				2023			
	Actual	Base	Supply Bear	Demand Bear	Base	Bull	Supply Bear	Demand Bear	Base	Bull
Real GDP	-3.4	5.5	1.8	2.8	4.6	5.8	0.9	2.0	3.7	5.0
CPI	1.2	4.6	5.5	2.8	4.8	5.7	2.9	1.5	2.4	3.1
Unemployment Rate (4Q Avg)	3.5	6.7	3.5	4.6	3.6	3.9	3.3	3.9	3.2	3.4
Policy Rate (EOP)	1.625	0.125	0.375	0.125	0.125	0.125	0.875	0.375	0.625	0.375

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Morgan Stanley Research

Sector Details

Consumer Spending

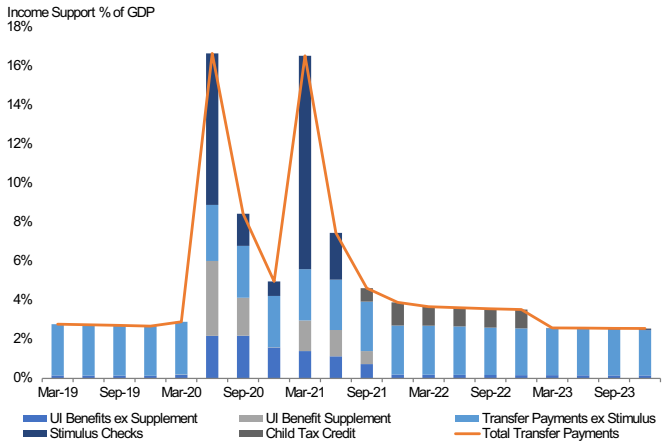
The shift from government transfer income toward labor compensation drives household consumption. Compositionally, consumer wallet share should continue to shift away from goods and toward services, with supply-chain disruptions causing a bumpy path in mid-2022. The saving rate normalizes as spending growth returns to its pre-Covid relationship with income growth. In 2022, we forecast PCE to grow by 3.3% 4Q/4Q (3.2%Y), followed by 3.0% in 2023 (3.1%Y).

Income

Even as the impulse from fiscal stimulus targeted at households fades, labor market income would drive positive income growth in 2022 and 2023 and support spending. Since the onset of Covid, household income has been held at a robust level due to unprecedented fiscal stimulus. For perspective, before the onset of Covid, government transfers to households were roughly 2.8% of GDP. This number jumped to 16.7% in 2Q20, driven by stimulus checks and supplemental unemployment insurance benefits, and remained elevated at 8.2% of GDP across 2020 and 8.1% in 2021 (Exhibit 7).

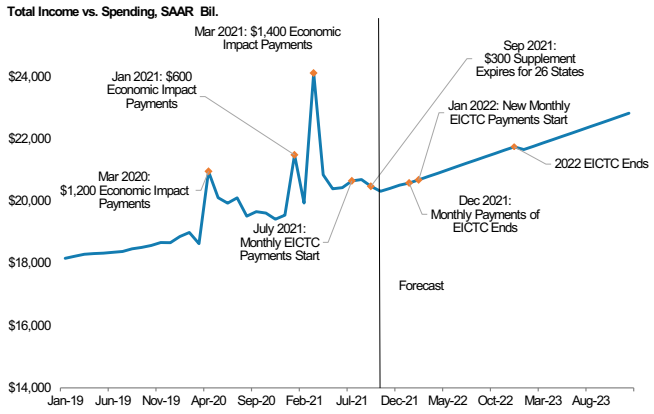
The fading fiscal impulse to households is largely being felt in 3Q21 and 4Q21. Supplemental unemployment insurance benefits ended in early September, kicking more than 6 million people off of unemployment benefits entirely and removing the $300/week supplemental benefit (Exhibit 8). Furthermore, the final stimulus checks went out in 2Q21, bringing the total amount of economic impact payments from April 2020-June 2021 to $800bn (see US Economics: Tracking Income (#4) (April 30, 2021)).

Exhibit 7: Income Support % of GDP



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 8: Personal Income Path With Major Stimulus Events



Source: Bureau of Economic Analysis, Morgan Stanley Research

As these unprecedented programs come to an end, there is still some stimulus in the pipeline. As part of the American Rescue Plan (ARP), the Child Tax Credit (CTC) was increased from $2,000 to $3,000 for children 6+ and $3,600 for child under 6 in 2021.

As a result, higher and now advanceable monthly payments of the CTC for low-middle income households are lifting aggregate income by $15bn/month from July to December 2021, while providing the remaining 50% of the tax credits when 2021 taxes are filed in spring 2022. The 2021 tax credit program in its entirety totals ~$200bn. Our Public Policy strategists expect the CTC to be extended into 2022 (another $200bn of spending), where monthly payments will be distributed for all 12 months ($15bn/month) for families who qualify. It is not in our base case for extension beyond 2023.

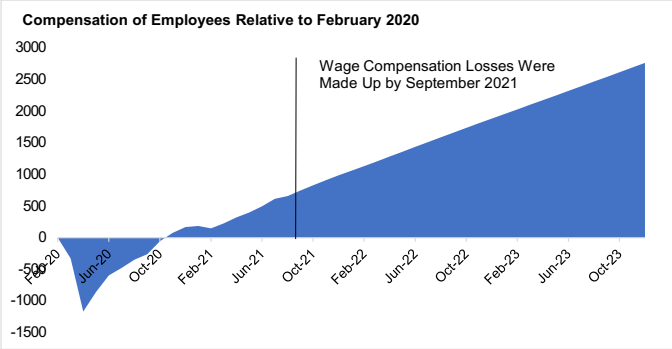
What Does This Mean For Tax Refund Season?

There are many factors to take into account this year. The effect of the advanceable child tax credit will likely be neutral on refunds – 50% of CTC refunds were distributed in monthly payments, but the total amount is higher and households have been given the option to opt out of monthly payments and receive a lump sum amount when they file 2021 taxes. For example, before the ARP a family would have received a lump sum $2k tax credit when they filed taxes. Now a family could receive 50% of the $3,600 in monthly payments ($300/month), and then the remaining $1,800 in lump sum when they file. Some families have chosen to receive all $3.0k-$3.6k in lump sum.

There are other important Covid programs to take into account. The ARP expanded the Child and Dependent Care Tax Credit (CDCTC), including by boosting the maximum benefit from $2,000 to $8,000 for 2 children, and it expanded the Earned Income Tax Credit (EITC) for childless workers. These expanded and higher tax credit programs only last this year, but could result in a higher tax refund season in 2022.

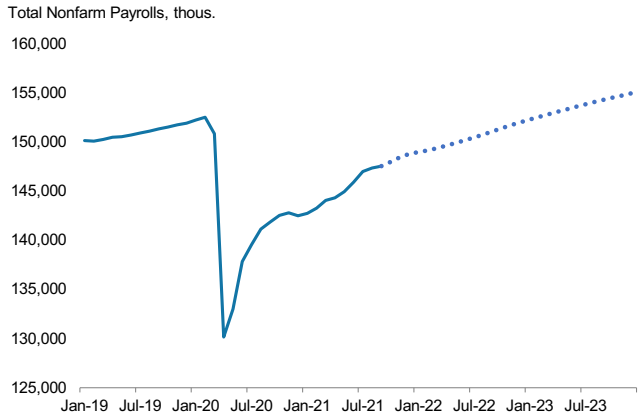
The main driver of income in 2022 and 2023 is worker compensation. As stimulus rolls off, the labor market recovery should support a smooth transition for household income and spending (Exhibit 9). After averaging 629k jobs/month in 3Q21, we expect job gains to remain elevated but step down to an average monthly pace of 447k in 4Q21. In 2022, we forecast job growth at 278k/month and 181k/month throughout 2023. By the end of this year, we expect payrolls to be 3.7mn below its February 2020 level, 500k below by the end of 2022, and reach 2.5mn higher than the pre-Covid level by the end of 2023 (Exhibit 10).

Exhibit 9: Cumulative Wage Compensation Forecast



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 10: Nonfarm Payroll Forecast



Source: Bureau of Labor Statistics, Morgan Stanley Research

Job growth is paired with elevated wage inflation. Through 3Q, the ECI revealed accelerating wage gains, with the pickup most pronounced in lower-wage sectors where labor shortages are greatest. Indeed, wages and salaries increased by an annual 7.6% in Leisure & Hospitality (8.1% for Accommodation & Food Services within L&H), and 5.9% in retail, both the fastest pace since tracking began in 2004. Across service industries, wages and salaries increased by 4.9%, the highest since 1989, vs. 3.5% for goods-producing industries. Even though growth in the services sector is sizably outpacing goods-producing industries, it still posted the highest rate since 2001 (with data back to 1976). To be sure, growth in middle/high wage industries has also turned up sharply, suggesting broader wage pressures where more fundamental drivers may be responsible.

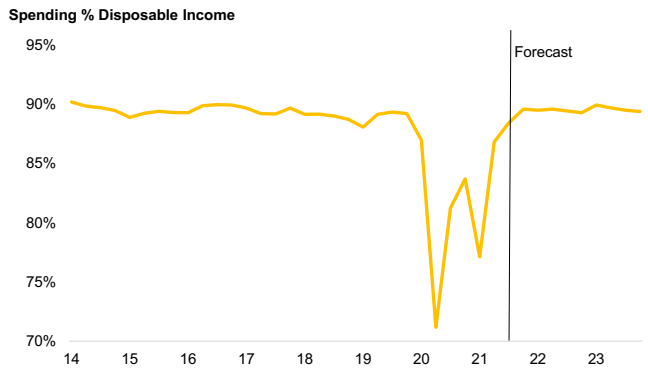
We expect that with labor demand remaining strong, higher participation will dampen but not extinguish wage pressures. The combination of job and wage gains are the pillars of income growth over the forecast horizon (see Labor Market Outlook).

Altogether, we forecast real disposable personal income to grow 3.6% 4Q/4Q in 2022 (-1.6%Y due to elevated base effects from fiscal stimulus in 1H21), and 2.9% 4Q/4Q in 2023 (2.9%Y). Sequentially, we expect real DPI to be positive each quarter in 2022 and 2023, apart from 1Q23, when the expanded child tax credits expire.

Savings

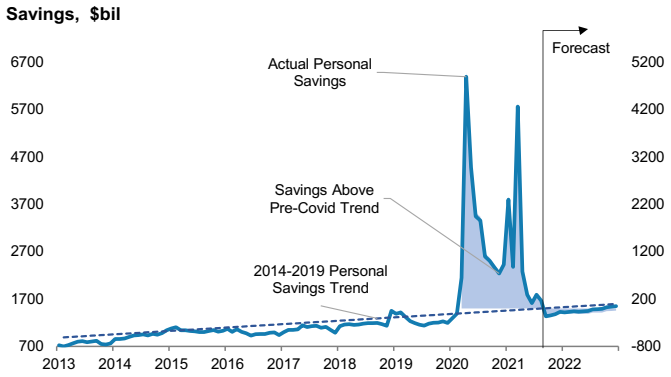
The unprecedented fiscal stimulus and limited spending due to lockdowns caused the saving rate to jump and allowed US households to build up excess savings. From 7.7% in 2019, the saving rate rose to 16.4% in 2020 and 13.3% through the first three quarters of 2021. As income growth stabilizes and spending returns to its pre-Covid relationship with income (spending as a share of income is 89-90%, Exhibit 11), the saving rate is expected to settle near its pre-Covid average, at 7.9% in 2022 and 7.8% in 2023.

Exhibit 11: Spending Share of Disposable Income



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 12: Savings

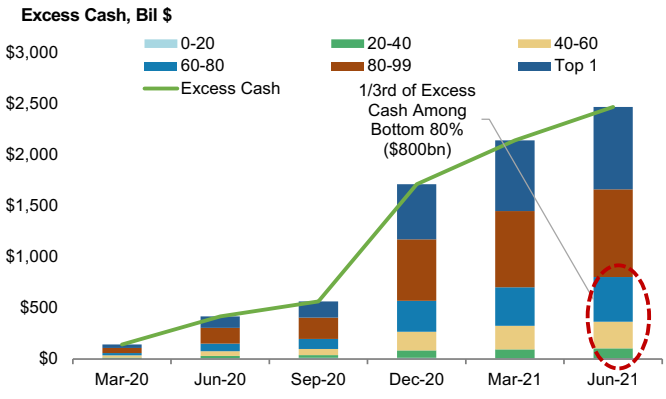


Source: Bureau of Economic Analysis, Morgan Stanley Research

Are there still excess savings? We estimate that $2.2tr in excess savings were accumulated over the last 18 months (Exhibit 12). Across the income distribution, 65% sits among the top 20% ($1.4tr), 28% among the 40-80% cohort ($620bn), and 4.5% among the bottom 40% ($93bn). This implies excess savings through June 2021 on a per-household basis of ~$57k for the top 20%, ~$15k for the 60-80% quintile, ~$9k for the 40-60% segment, ~$3k for the 20-40% band, and ~$290 for the bottom 20% (Exhibit 13 and Exhibit 14).

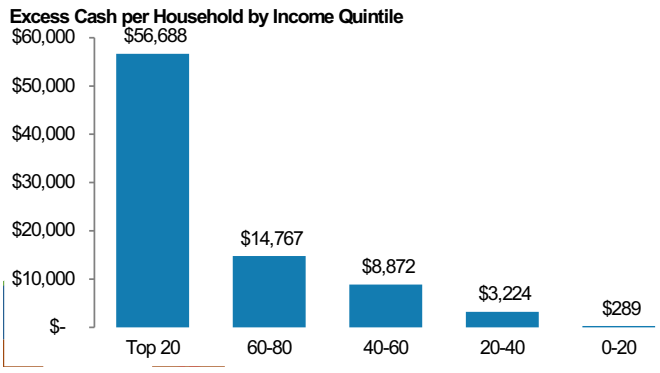
While the distribution of excess savings is not uniform, this accretion is meaningful given that, pre-Covid, low-income households typically held no savings. In fact, data from the BLS's Consumer Expenditure Survey highlights that the bottom 40% typically spend more than they earn given high debt levels.[1]

Exhibit 13: Cumulative Excess Cash by Income Quintile



Source: Federal Reserve, Morgan Stanley Research

Exhibit 14: Excess Cash per Household by Income Quintile



Note: Data as of June 2021.
Source: Federal Reserve, Morgan Stanley Research

Nonetheless, the unequal distribution of excess savings means that savings for households that need it the most will likely not last as long as those for the upper income echelon (for more on housing wealth and rising rents for low income households, see US Economics, Sustainability, US Housing, MBS, and Commercial Real Estate: A Housing Boom for Whom? (November 1, 2021)). Lower-income consumers will become increasingly reliant on labor income and less so on government transfer income and the savings cushion. Our job growth forecasts, which are driven by gains in low-income industries that still have significant employment shortfalls, including retail trade,

leisure and hospitality, and trade/transportation, should keep low-income household balance sheets healthy.

Spending

The income and saving sections above prove the ability to spend. Households have steady labor income growth, further stimulus in the pipeline, and a modest saving cushion to draw upon. With ability to spend, the willingness to spend has proved itself. **In our forecasts, we expect spending to remain elevated, growing by 3.3% 4Q/4Q in 2022 (3.2%Y) and 3.0% in 2023 (3.1%Y).**

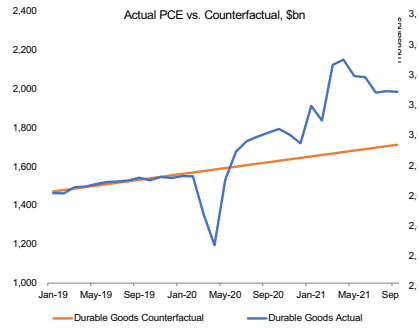
Despite rising inflation and the dampening effect it has had on consumer sentiment, spending has proved resilient. In 3Q21, core PCE inflation grew 3.6%Y and the Delta wave caused a new spike in Covid cases. Nonetheless, real PCE grew at a 1.6% Q/Q annualized rate, underpinned by strength in services consumption, which expanded at a 7.9% annualized rate, contributing 3.4pp to real GDP growth in the quarter. A rebound in spending on international travel, transportation services, and healthcare were the largest drivers.

The consumer surveys reflect this divergence in sentiment and spending. The October Conference Board Consumer Confidence survey stated, "**while short-term inflation concerns rose to a 13-year high, the impact on confidence was muted. The proportion of consumers planning to purchase homes, automobiles, and major appliances all increased in October—a sign that consumer spending will continue to support economic growth through the final months of 2021.** Likewise, nearly half of respondents (47.6%) said they intend to take a vacation within the next six months—the highest level since February 2020, a reflection of the ongoing resurgence in consumers' willingness to travel and spend on in-person services."

Consumer willingness to travel and spend on in-person services underpins the shift in consumer wallet share in the quarters ahead. At the most extreme point of the wallet share shift in 2Q21, services share of nominal spending fell over 4pp from its peak to 64.7%, while durable goods gained 1.8pp to 13.3%, and nondurable goods 1.3pp to 22%. Since April 2021, wallet shares have begun to shift back toward their pre-Covid relationship. In 3Q21, durable goods shared softened to 12.4%, nondurable goods held steady at 22%, and services share increased to 65.5%.

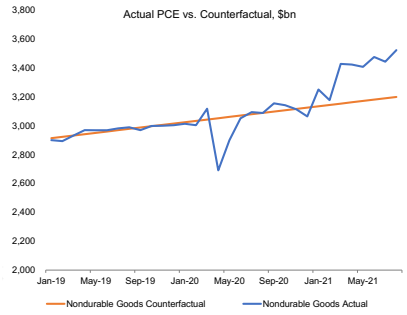
Even as wallet shares normalizes, the over vs. underperformance in goods and services has been substantial. Compared to a pre-Covid counterfactual, spending on durable goods since March 2020 is cumulatively $3.4tr (SAAR) higher than what a pre-Covid trend would have implied (Exhibit 15). Nondurable goods are $1.6tr higher (Exhibit 16), and services at $17.2tr lower (Exhibit 17).[2]

Exhibit 15: Durable Goods Spending vs. Counterfactual



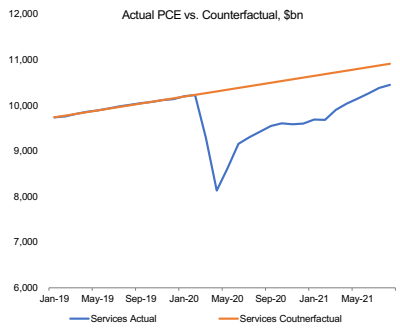
Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 16: Nondurable Goods Spending vs. Counterfactual



Source: Bureau of Economic Analysis, Morgan Stanley Research

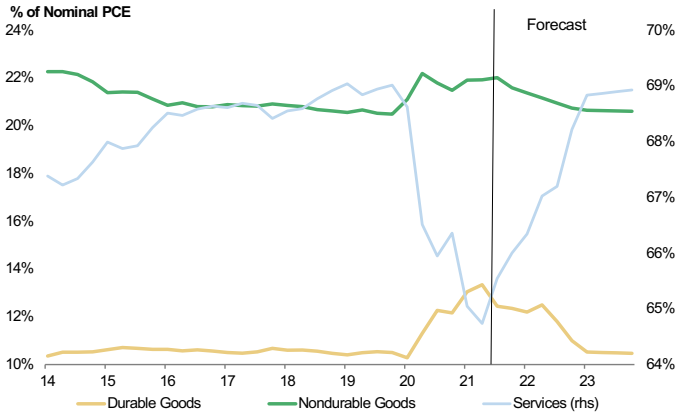
Exhibit 17: Services Spending vs. Counterfactual



Source: Bureau of Economic Analysis, Morgan Stanley Research

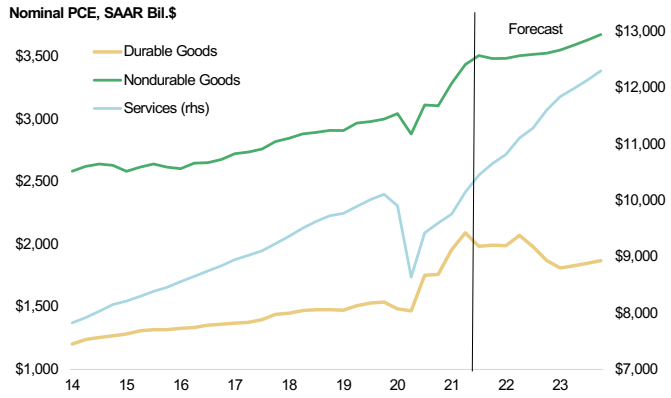
We expect, that in the coming quarters, spending on goods and services will revert back to their pre-Covid shares (see Hardline/Broadline/Food Retail: The Great Reversion: It Depends What You Mean (October 14, 2021)). The wallet share on goods vs. services should reach its pre-Covid shares by 1Q23, and beyond that return to the pre-Covid pace by which goods were gradually losing share and services were gaining share each quarter (Exhibit 18 and Exhibit 19).

Exhibit 18: Share of Nominal PCE



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 19: Level of Nominal PCE



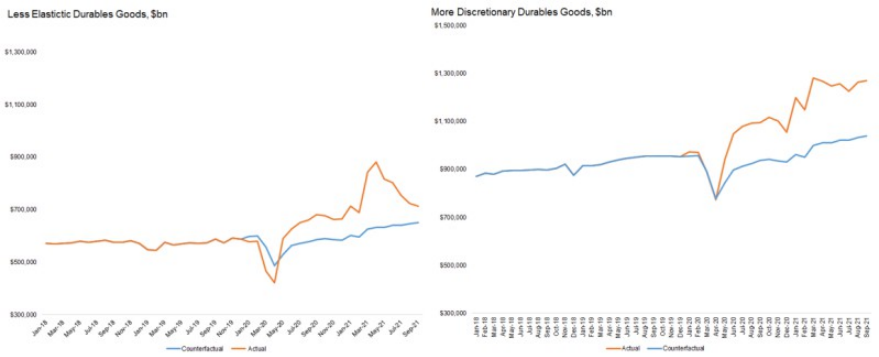
Source: Bureau of Economic Analysis, Morgan Stanley Research

There will be bumpiness in goods spending next year. Supply-chain disruptions have caused a substantial pullback in new vehicle spending. The wallet share shift away from durable goods in 3Q21 was almost entirely driven by a decline in new vehicle spending. Elevated vehicle prices and a shift toward used vehicles in recent months indicates there is pent-up demand for new motor vehicles once supply comes back online. As such, we expect durable goods spending to experience some strength in 2Q22 and 3Q22 as motor vehicle supply comes back online (see Investment, Trade, & Inventories).

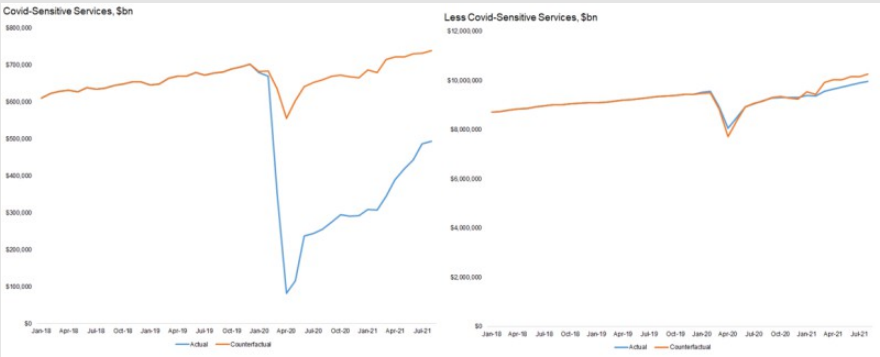
An Interesting Look at Spending Over- vs. Underperformance

The overperformance in durable goods spending came from all categories of durable goods, while services spending underperformance came from a small group of Covid-sensitive categories.

Within durable goods spending, we estimate that 66% of the cumulative overperformance was in "more discretionary" durable goods ($278bn cumulative dollars gained). This includes furniture, pleasure boats, pleasure air crafts, sporting goods, ammunition, motorcycles, RVs, and jewelry (6.5% of PCE in normal times, but currently 7.9% of PCE). Meanwhile, 40% was in "less elastic" categories, including motor vehicles and home appliances ($141bn), which represent 4% of PCE in normal times and 4.5% today.



On the services side, more than 80% of the underperformance ($566bn cumulative dollars lost) has been among highly Covid-sensitive areas that typically account for 4.6% of PCE, but fell to under 1% during the worst of Covid. These categories include sports contests, amusement parks, spectator events, gambling, package tours, food services, accommodations, air travel, and foreign travel and account for the vast majority of the services share loss. The less Covid-sensitive components of services, shelter, healthcare, utilities, public transportation, financial services, insurance, childcare, etc., have underperformed to a much lesser extent.



Source: Bureau of Economic Analysis, Morgan Stanley Research

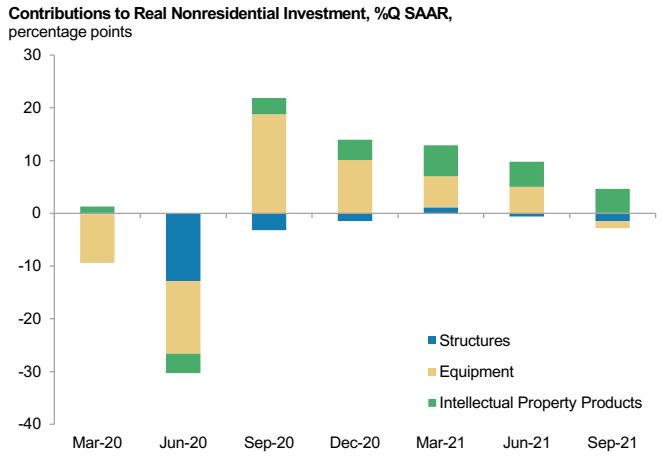
Investment, Trade, & Inventories

Business investment remains an important engine powering the US economic recovery, with the level of investment having already returned to pre-Covid peaks, albeit with mixed dynamics across details. Overall, we see private capex growing 7.9% 4Q/4Q in 2021 (7.7%Y), 5.9% in 2022 (5.9%Y), and 5.3% in 2023 (5.6%Y), contributing 1.0pp, 0.8pp, and 0.7pp to 4Q/4Q real GDP growth in those years, respectively.

Business Investment

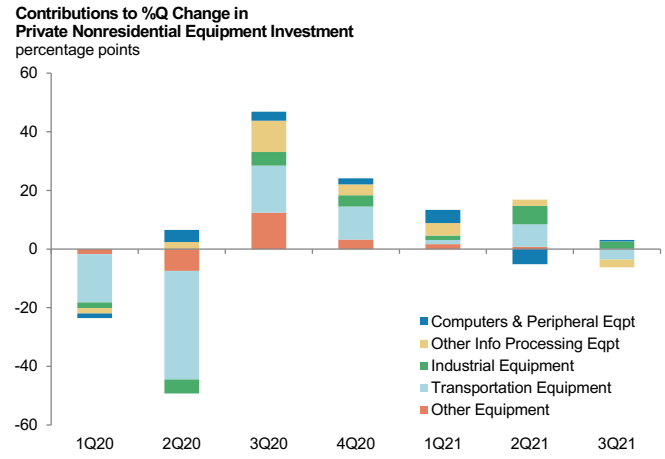
Strong capex growth appears set to continue in the year ahead. In recent quarters, capex has been undergoing a robust recovery – annualized growth in business investment in 1H21 ran at 11.1%, with particularly notable strength in equipment and intellectual property products investment (Exhibit 20).

Exhibit 20: Equipment and IPP Leading Investment Recovery



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 21: Supply Bottlenecks Weigh on Equipment Investment in 3Q



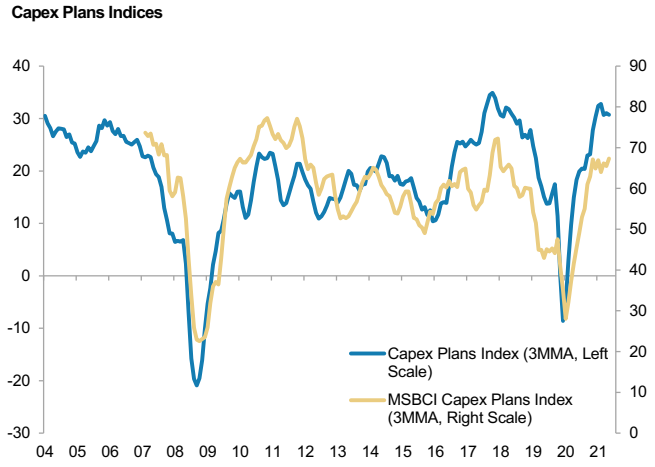
Source: Bureau of Economic Analysis, Morgan Stanley Research

Capex activity has not been insulated from supply bottlenecks, and strength in investment activity took a pause in 3Q21, largely owing to a 3.2% annualized contraction in equipment investment, which was led lower by a nearly 19% contraction in investment in transportation equipment (Exhibit 21).

Although incoming data on investment activity may face continued volatility due to supply bottlenecks, we see fundamentals underpinning the outlook for capex remaining robust, which should support continued strength in capex over the year ahead.

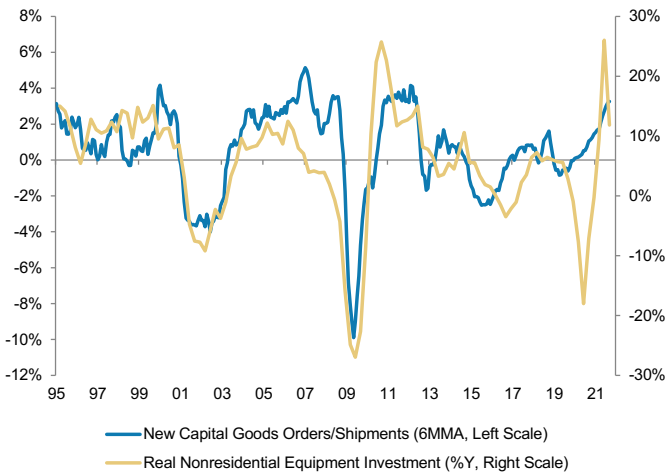
Forward-looking indications for capex growth remain firmly in expansion (Exhibit 22). Our Capex Plans Index remained elevated in October but was fairly unchanged, pointing toward ongoing strength in capital expenditures. The strength in the Capex Plans Index is consistent with our MSBCI Capex Plans Index, a component of our Morgan Stanley Business Conditions Index (MSBCI), where capex plans have remained consistently strong, with the 3-month average of the MSBCI Capex Plans Index currently running at its highest since 2018. The MSBCI Capex Plans Index has provided a good signal on the direction of capex data, and so the increase in September points to continued underlying strength in indicators such as durable goods orders.

Exhibit 22: Surveys Show Strong Forward-Looking Capex Plans



Source: Morgan Stanley Research

Exhibit 23: Order Backlogs Have Been Building, Supporting Capex Outlook



Source: Census Bureau, Bureau of Economic Analysis, Morgan Stanley Research

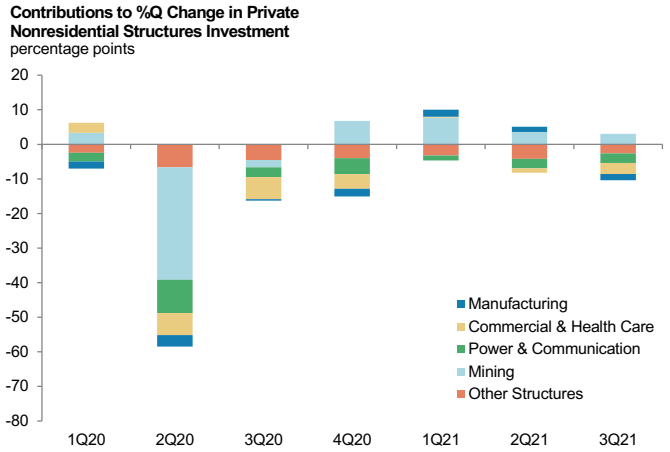
The hard data also point to ongoing investment and a pipeline of order backlogs that should further support investment activity in the quarters ahead. Shipments of core capital goods grew at a 12.4% annualized pace over the 3 months through September, and an 11.5% pace over the last 6 months. Orders of these goods have grown at an annualized pace of 6.6% over the last 3 months, which could suggest some incremental cooling in sequential momentum. However, this cooling may still be a few months off because the level of new orders is still running well ahead of shipments, indicating a considerable stock of backlogs (Exhibit 23). Similarly, the ISM manufacturing order backlogs index continues to run near multi-decade record highs.

All of these factors support what we expect will be a continued robust run for equipment investment, which we see growing 7.9% 4Q/4Q in 2021, and 5.4% in 2022. **Strength in equipment investment should add to continued growth in IT-related investment.** In a recent note, we looked at the implications of the recent surge in IT capex, in part motivated by results from our IT hardware team's survey of CIO intentions, which indicated structurally higher levels of IT spend and faster tech diffusion post-Covid.

The most recent CIO survey revealed that 45% of CIOs expect to increase IT spend as a percentage of revenue over the next 3 years, vs. 5% who expect it to decline. This represents a record IT spending up-to-down ratio of 9.0x, surpassing the very strong 2Q reading of 6.6x, and stands almost 6 times the pre-Covid 2019 average of 1.6x. Moreover, these gains continue to come from non-tech sectors, which we see as suggesting that the rate of tech diffusion is accelerating.

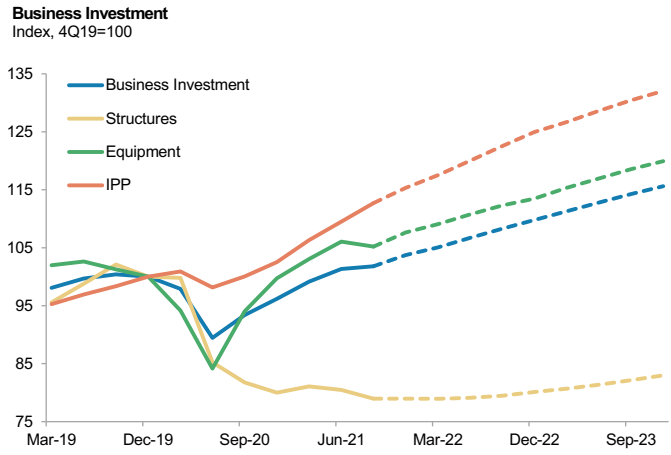
Business investment in structures, on the other hand, has remained soft, with fairly broadly based weakness across components (Exhibit 24). While we see moderate recovery over our forecast horizon, we expect that nonresidential structures investment will remain below the pre-Covid peak through the end of our forecast horizon (Exhibit 25).

Exhibit 24: Weakness in Nonresi Structures Investment Has Been Broadly Based



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 25: Outlook for Business Investment and Its Components



Source: Bureau of Economic Analysis, Morgan Stanley Research

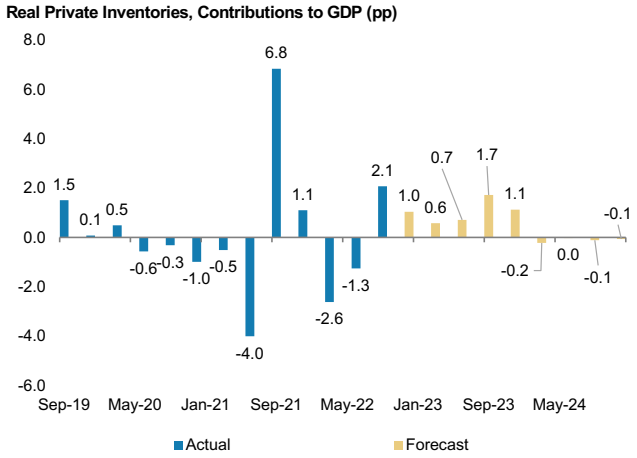
Outlook for Inventories

Inventories have been a major swing factor for growth in 2021 and we expect will remain an important component driving real GDP growth in 2022.

That pickup in the inventory contribution to real GDP growth should accelerate materially as supply-chain disruptions ease, and **we expect to see the most significant phase of this inventory rebuild in 2H22, with the largest contributions to growth coming then as well (Exhibit 26).**

While we see the quarter-over-quarter pace of inventory accumulation remaining elevated, we see the second derivative flattening beyond 2H23, which **would mean that we should see inventories having a move neutral effect on GDP growth in 2023.**

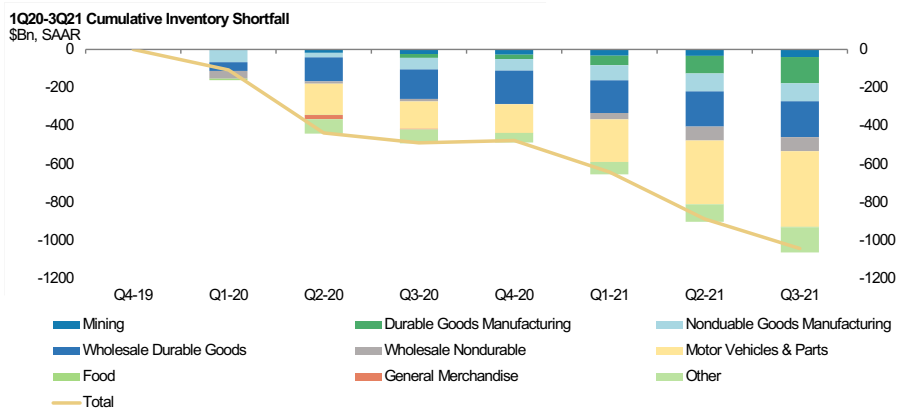
Exhibit 26: Inventories Contribution to Growth



Source: Bureau of Economic Analysis, Morgan Stanley Research

The cumulative shortfall in inventories from 1Q20-3Q21 has totaled $1.0tr, with more than a third of the shortfall accounted for in motor vehicles and part inventories ($395bn). Durable goods manufacturing, wholesale durable goods, nondurable goods manufacturing, and wholesale nondurable goods sequentially have also been major drags on inventories (Exhibit 27).

Exhibit 27: Cumulative Inventory Shortfall by Industry

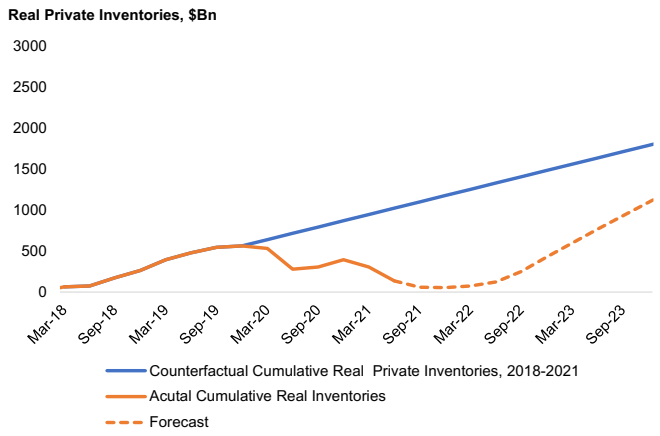


Source: Bureau of Economic Analysis, Morgan Stanley Research

In the first three quarters of 2021, the change in real private inventories has averaged -$112bn (relative to the pre-Covid average pace of $76bn each quarter). We expect the quarterly pace to step up notably in 2022, building on average $93.7bn/Q, and further to $166bn/Q in 2023. By the end of our forecast period, the shortfall in cumulative inventories would still sit at $700bn (Exhibit 28). For perspective, if we continue to add inventories at a $166bn/Q pace beyond 2023, we would not reach the pre-Covid path until 4Q2025.

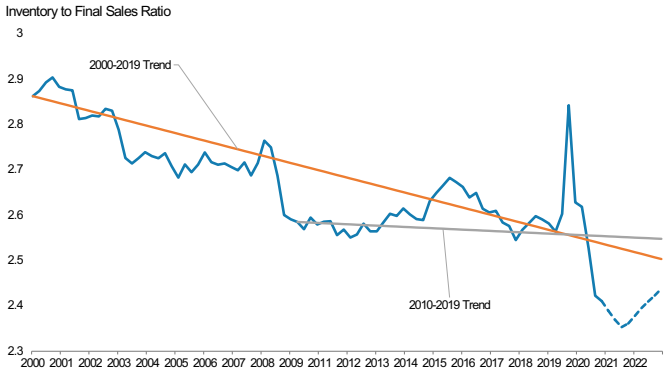
While our forecast has inventory building at an above-trend pace, the stock in inventories relative to final sales remains low relative to both the downward longer-term trend (2000-2019) and flatter near-term trend (2010-2019). This supports the need for strong rates of inventory accumulation throughout our forecast horizon even as household consumption shifts from goods toward services (Exhibit 29).

Exhibit 28: Cumulative Shortfall in Real Private Inventories



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 29: Inventory Stock Relative to Trend



Source: Bureau of Economic Analysis, Morgan Stanley Research

International Trade

With strong capex, and an inventory-building cycle getting underway, we anticipate that US import growth will remain robust. We are forecasting imports grew 4.9% 4Q/4Q in 2021, while growth should accelerate to 7.4% in 2022, before moderating to 5.2% in 2023.

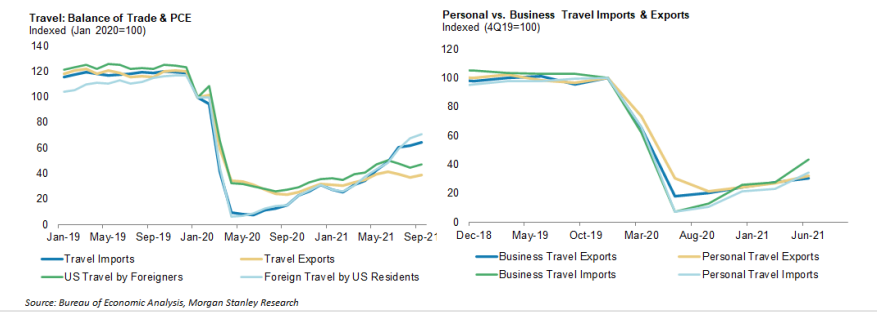
The net trade balance will face a mix of crosscurrents, however, as we should see exports rebound, particularly services exports as US international travel resumes (see gray box below). Moreover, an increase in imports we expect will offset some of the uplift to GDP growth from inventories as we estimate that 25-30% of those inventories are imported content based on the imports-to-domestic-supply ratio for goods producing sectors. On the whole, we see net trade shaving 20bp off of GDP growth on a 4Q/4Q basis in 2022, and having a roughly flat contribution in 2023, but with some significant quarterly highs and lows in between.

International Trade in Services & International Travel

The services trade balance in the years leading up to 2020 comprised just over 50% of the US trade balance. his contracted sharply to 30% of the trade balance, driven by a decline in both exports and imports of travel services.

This divergence between international and domestic travel is what is driving the decline in travel trade services. For perspective, air travel within the US has rebounded to roughly 90% of its pre-Covid levels, but international air traffic is still 50% below its pre-Covid volume. The sluggish rebound in international travel is also reflected in consumer spending – on the personal consumption expenditures report, foreign travel spending by US residents in September 2021 sits at 71% of its pre-Covid level (up from 6.5% in April 2020), while expenditures by foreigners in the US is at a lesser 47% of its pre-Covid level.

Foreign travel by US residents is captured in the imports side of travel services in the US trade balance, while expenditures in the US by foreigners are travel exports. Travel imports have rebounded to 64% of their pre-Covid levels, from an 8% low in June 2020, while travel exports are at 39%, from a 24% bottom in September 2020. Though personal travel comprises more than 80% of travel imports and exports, both personal and business travel have fallen and recovered to a similar degree.



Source: Bureau of Economic Analysis, Morgan Stanley Research

As international borders reopen and Covid concerns ease, the pick-up in international travel should lift the travel trade balance back up on both the imports and exports side.

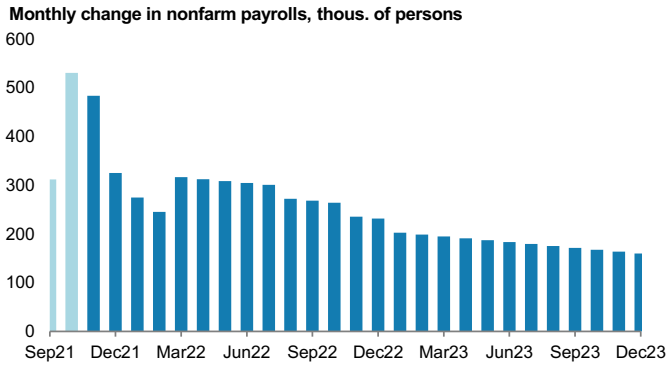
Labor Market Outlook

The labor market is close to maximum employment by end-22. Robust economic growth and fading health concerns prompt a strong recovery in prime age labor force participation. The unemployment rate ends 2021 at 4.7% in 4Q, falling further to 3.6% in 4Q22 and 3.2% in 4Q23.

Strong aggregate demand in our baseline forecast will correspond with strong demand for labor. In general, we expect this demand to be met by an increase in employment and elevated average weekly hours. We think payroll growth will remain strong but slow through the remainder of this year and early next as supply constraints weigh on growth. We expect job growth to pickup by 2Q22. On average, payroll growth will slow from a monthly pace of 550k/month in 2021 to 278k/ month in 2022 and 181k/month in 2023 (Exhibit 30). This would return payrolls to its pre-Covid level in 1Q23, but fall short of its pre-Covid trend throughout our forecast horizon (Exhibit 31).

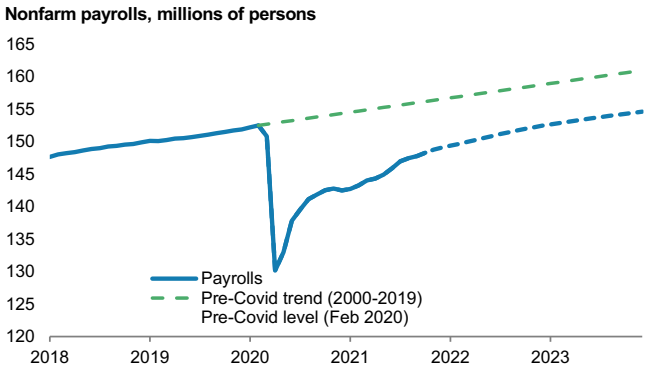
Although the payroll recovery in recent months has been weaker than the Fed and our expectations, we still think that job growth will be strong over the coming months. Lingering effects from the pandemic are only just beginning to reverse, as observable in the recent strength in leisure and hospitality, which is likely to extend. Softness in recent readings came largely from weaker than anticipated education employment, which we think is unlikely to continue. Anecdotally, school districts face difficulties in hiring auxiliary workers because of stiff competition for labor and inflexible offered wages. As offered wages move up across the board, we expect this particular sectoral weak spot to reverse, and the prospects of higher compensation are likely to draw more workers into the labor force.

Exhibit 30: Payroll growth should slow before a bump in 2Q22 and gradually soften



Source: Bureau of Labor Statistics, Morgan Stanley Research

Exhibit 31: Payrolls should return to its pre-Covid level in 1Q23, but fall short of trend



Source: Bureau of Labor Statistics, Morgan Stanley Research

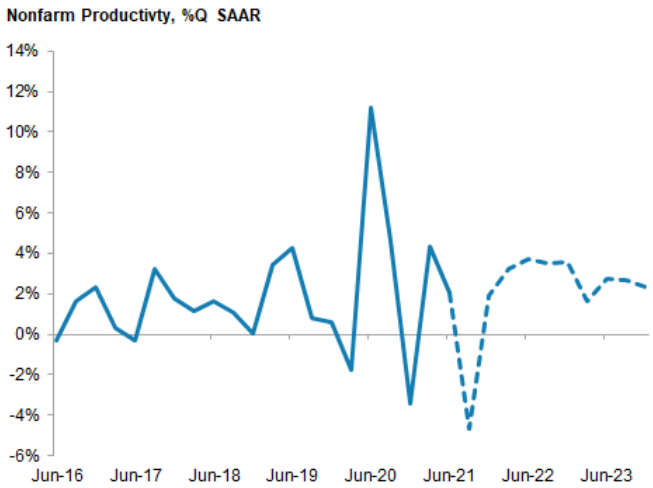
While we do not see employment returning to its pre-Covid trend, we think strong average weekly hours and higher productivity (output per hour) will translate to more output per worker and support our forecast for strong output growth in 2022 and 2023 (Exhibit 32).

Labor force participation in our forecast will not quite return to its pre-Covid level due mostly to aging, however, we expect recovery in prime-aged participation to be strong. The labor force dropped by 8 million workers, or close to 5%, in the early stage of the

pandemic and despite strong labor demand and rising wages, a substantial number of workers still have not returned to the labor market. The labor force participation rate remains 1.7pp below its pre-Covid level but as the pandemic recedes and the economic recovery continues, participation should increase from here.

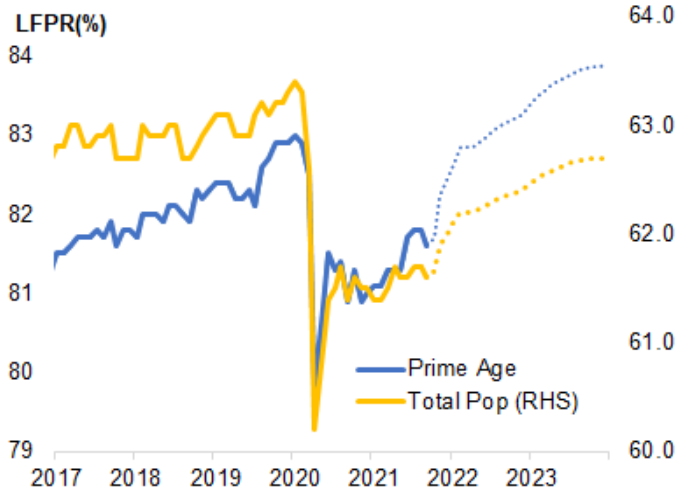
Against a backdrop of continued strong demand conditions, we expect participation to increase by 40bp in 2022 and another 30bp in 2023, in line with the cyclical expansion of labor supply that we saw in the last cycle (Exhibit 33). In the near term, easing concerns around childcare and health risks, less financial support for the unemployed, in combination with higher offered wages will pull workers back into the labor force.

Exhibit 32: Strong productivity growth will support output despite below-trend employment



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 33: While total participation should lag, prime-age should return to trend

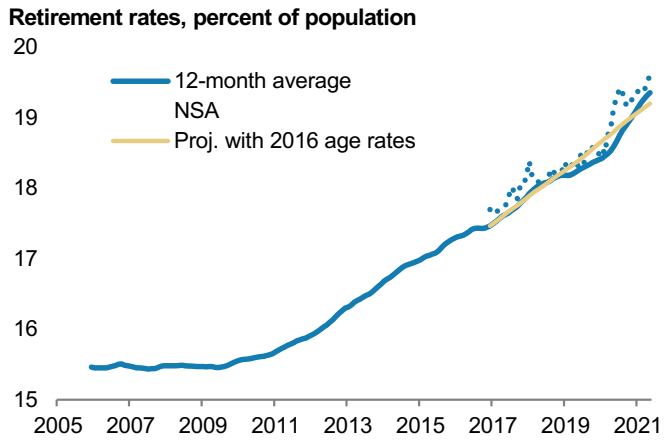


Source: Bureau of Labor Statistics, Morgan Stanley Research

However, even with strong cyclical pull factors, labor force participation does not get back to its pre-pandemic level over our forecast horizon. As we have outlined in prior research (see US Economics: What's Up With The Labor Market? (10 Aug 2021)), a substantial part of the decline in the participation rate is likely to be persistent.

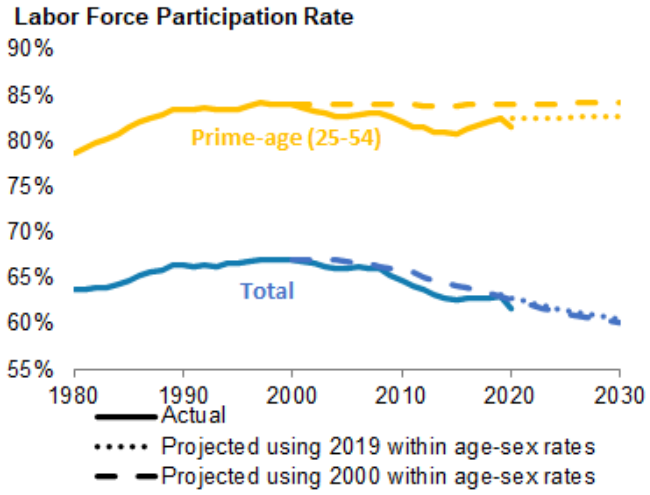
Most importantly 1pp of the current 1.7pp shortfall is due to increased retirements around the pandemic, beyond that which would be predicted by the aging of the population (Exhibit 34). Almost all of this increase in retirements is from workers in the 65+ age range. Given the age composition of the new retirees and the strong performance of retirement accounts and savings, we think it unlikely that many of these workers will return to the labor force. Furthermore, keeping age-cohort participation rates constant at their 2019 peaks, population aging alone would imply a fall in the labor force participation rate of around 40 bp a year. However, while overall participation faces this demographic headwind, prime-age participation does not (Exhibit 35). We expect prime-age participation will begin to exceed its pre-Covid level from mid-2022 onwards.

Exhibit 34: The retirement rate is higher than aging would predict



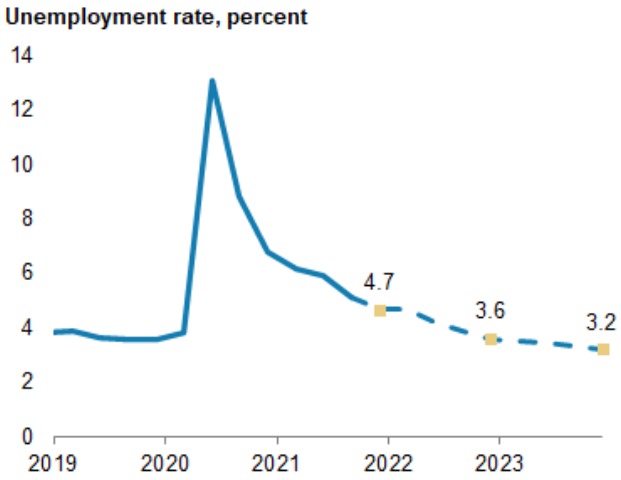
Source: Morgan Stanley Research, authors' calculations using CPS microdata

Exhibit 35: Based on prior peak age-group participation rates, aging should drag down total participation, but not prime-age



Source: Bureau of Labor Statistics, Census, Morgan Stanley Research

Exhibit 36: Payroll growth and low participation should bring unemployment to historical lows



Source: Bureau of Labor Statistics, Morgan Stanley Research

Our forecasts for employment and participation would result in the unemployment rate reaching historically low levels by 2023. We see the unemployment rate ending the year at 4.7% in 4Q21, falling to its all-time low of 3.6% in 4Q22, and continuing to fall to 3.2% in 4Q23 (Exhibit 36).

Its important to note that the unemployment rate is an incomplete measure of the strength of the labor market, as such aggregate measures can mask significant unevenness across the labor market. Disparities in labor market conditions Policymakers continue to target a broad-based and inclusive recovery, making it increasingly important to monitor disparities in labor market conditions as sources of "hidden slack," as we have discussed previously (See US Economics: What's Up With The Labor Market? (10 Aug 2021)).

Alternative labor market scenarios: In the table below, we lay out three alternative labor market scenarios: a supply-bear, demand-bear, and bull (Exhibit 37). As discussed above (see Outlook in a Nutshell), in the supply-side bear case, many of the Covid-related distortions in labor markets become permanently embedded, and wage pressures persist. We would see this manifest itself in a lower participation rate and lower employment. These would have offsetting effects on the unemployment rate, which would be little changed from our baseline scenario. In the demand-side bear case, the labor market recovery stalls from a lack of demand for goods consumption. Relative to our baseline, this would result in less employment and slightly less participation. On net, the unemployment rate would be higher. Finally, in the bull case, the labor supply recovery is faster and more robust, leading to more robust aggregate demand. While employment would be higher than in our baseline scenario, a higher participation rate would result in a higher unemployment rate.

Exhibit 37: Alternative labor market scenarios

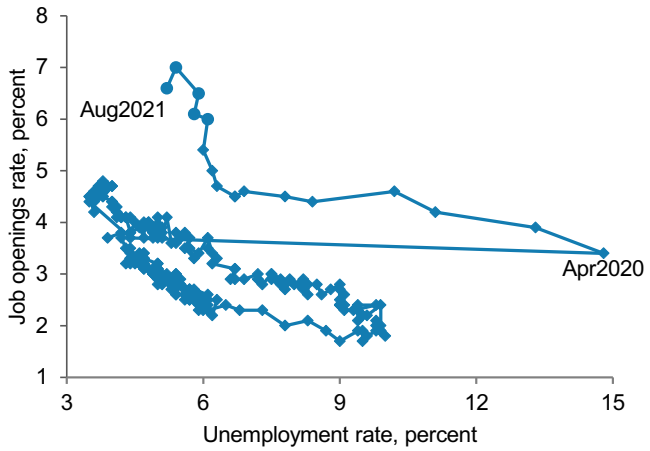
Bull-Bear Scenarios										
(4Q average, percent)	2020	2021	2022				2023			
	Actual	Base	Supply Bear	Demand Bear	Base	Bull	Supply Bear	Demand Bear	Base	Bull
Employment Rate (EPOP)	57.4	58.9	59.5	59.3	60.1	60.8	59.6	59.8	60.7	61.7
Unemployment Rate	6.7	4.7	3.5	4.6	3.6	3.9	3.2	3.9	3.2	3.4
Participation Rate	61.5	61.8	61.6	62.2	62.4	63.3	61.6	62.2	62.7	63.8

Source: Morgan Stanley Research

Source: Bureau of Labor Statistics, Morgan Stanley Research

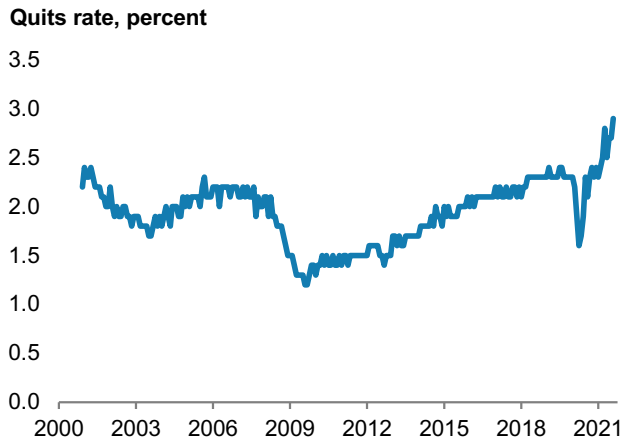
Despite a somewhat elevated unemployment rate and depressed employment to population ratio in our baseline scenario, other indicators point towards labor market tightness. For example, the job openings rate (openings as a percent of filled and unfilled jobs) reached an all-time high of 7.0% in July and remained elevated in August (the latest available data) at 6.6%, which one would normally expect to see at much lower levels of unemployment (Exhibit 38). In addition, the rate at which people are quitting jobs, which is usually high when labor markets are tight, reached an all-time high of 2.9% in August (Exhibit 39).

Exhibit 38: Job openings are usually lower at this level of unemployment…



Source: Bureau of Labor Statistics, Morgan Stanley Research

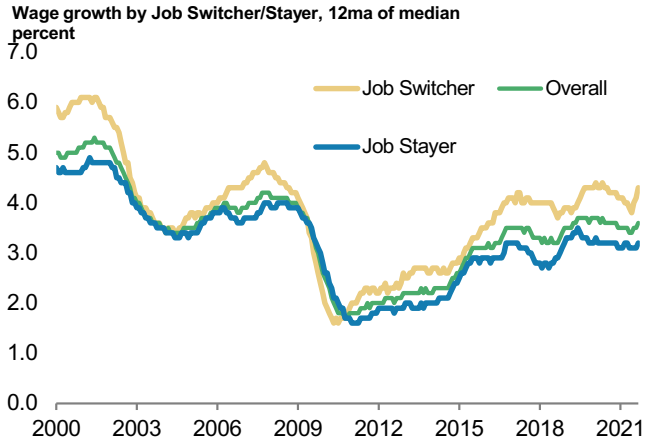
Exhibit 39: … and quits are elevated



Source: Bureau of Labor Statistics, Morgan Stanley Research

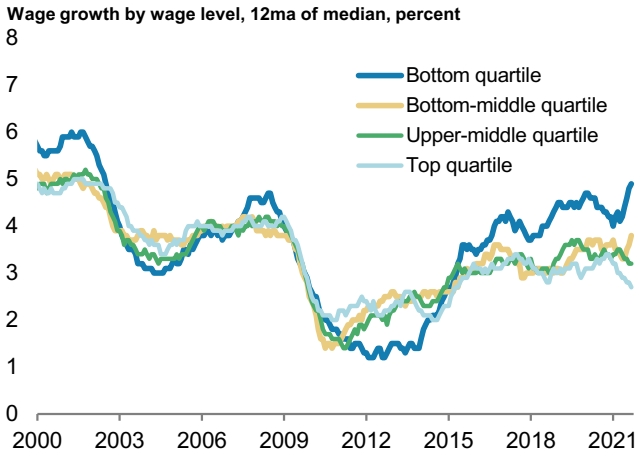
We think this apparent tightness in the labor market, and the reallocation of labor that is occurring, should continue to support wages. According to the Atlanta Fed's wage tracker, wage growth has been stronger for those who have switched jobs than those who have stayed in their job (Exhibit 40). Gains have also been strongest for those in the bottom quartile of the wage distribution (Exhibit 41).

Exhibit 40: Wage growth has been higher for Job Switchers than Stayers...



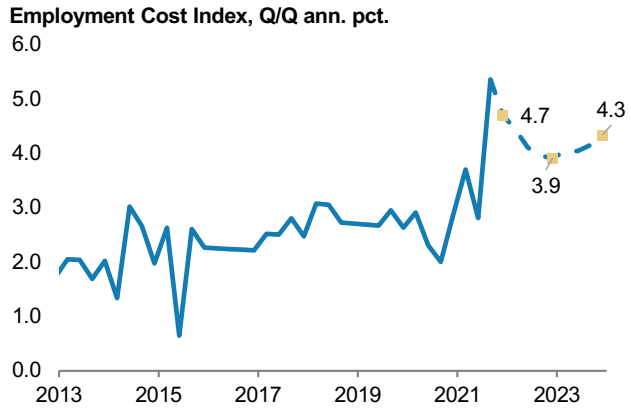
Source: Atlanta Fed Wage Tracker, Morgan Stanley Research

Exhibit 41: ...and for lower-wage workers



Source: Atlanta Fed Wage Tracker, Morgan Stanley Research

Exhibit 42: Wage growth should moderate but remain strong in 2022 before picking up again in 2023



Source: Bureau of Labor Statistics, Morgan Stanley Research

Since the recovery in low-wage employment in industries such as Leisure and Hospitality has lagged, and since wage growth has been strongest for job switchers and this part of the wage distribution, a return to employment in these industries should support wage growth as measured by the Employment Cost Index (ECI).[3]

More specifically, we see the employment cost index for compensation, which saw its strongest ever Q/Q growth 5.4%, rising 4.7%Q in 4Q21, soften somewhat to 3.9%Q in 4Q22, before picking up again to 4.3%Q in 4Q23 (Exhibit 42).

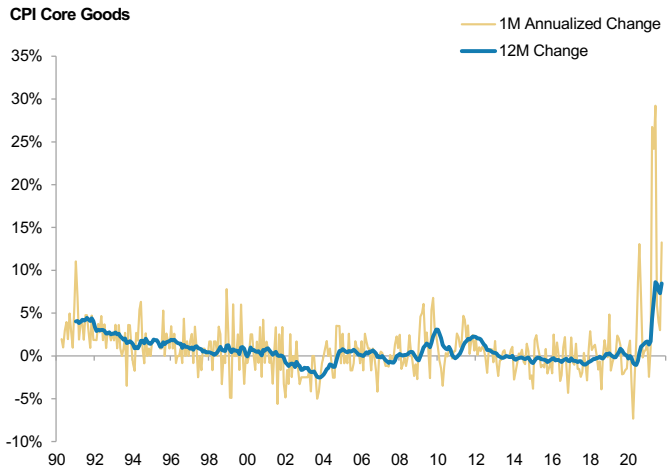
Inflation Outlook

A combination of normalization in supply-affected goods prices, paired with still-firm core services prices, means that inflation cools off of peaks over our forecast horizon, but remains elevated on a year-over-year basis next year. Core PCE inflation ends in December 2022 in our forecasts at 2.4% year over year, before moderating further to 2.0% at the end of 2023.

Inflation has reached multi-decade highs in the early part of 4Q21, and we see incoming data on inflation poised to accelerate further into the end of this year. The reacceleration in sequential inflation that we anticipate over the near term is likely to be driven, in part, by what appears to be a second wind for the so-called transitory factors, including further upside in autos, both new and used, as well as ongoing pressures across core goods prices during the holiday season resulting from still-constrained supply (Exhibit 43).

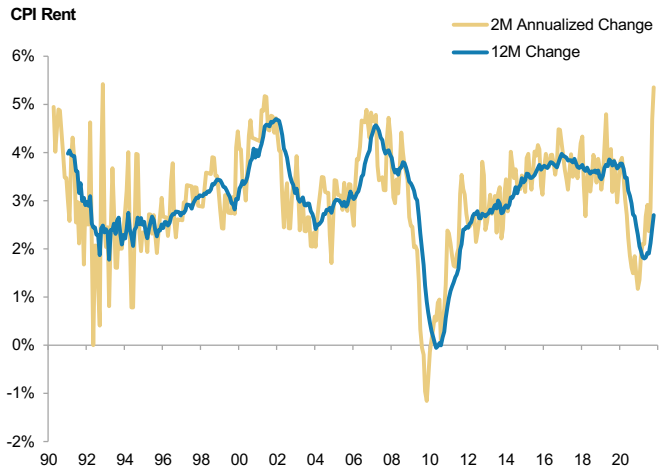
Recently, upside in core goods prices has been joined by some acceleration in core services prices. Prices for services ex energy rose 0.45% in the October CPI, led by increases in shelter costs, particularly rents and owners' equivalent rents which, over the past 2 months, have increased at the fastest rates since 1992 (Exhibit 44), and 2006, respectively.

Exhibit 43: Renewed Inflation Upside from the 'Transitory Factors'



Source: Bureau of Labor Statistics, Morgan Stanley Research

Exhibit 44: Upside in Shelter Costs Has Led Core Services Higher



Source: Bureau of Labor Statistics, Morgan Stanley Research

We see the breadth of these price pressures acting to push inflation up further into the end of the year – **we forecast the core CPI in December 2021 at 5.5% year over year, and core PCE inflation at 4.2% year over year.** We expect that continued solid sequential gains in the first 2 months of 2022, paired with low base effects from the first 2 months of 2021, **should set both measures of core inflation on track to remain at or near peaks on a year-over-year basis through February 2022.**

A sustained run of elevated inflation since end 1Q/early 2Q 2021 means that measures of inflation, while gravitating off of peaks, would remain historically elevated on a year-

over-year basis for some time next year. As a consequence, it would become increasingly important to monitor inflation trends sequentially in order to judge the direction of inflation as we move through the year ahead. For example, while we see the core CPI peaking at 6.1% year over year in February 2022, we anticipate the 3-month annualized rate of core CPI inflation will have already drifted off a high of 7.2% in December 2021 to 5.3% in February 2022.

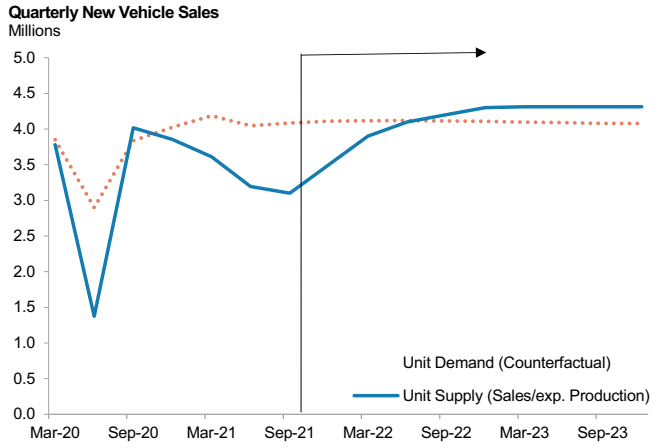
Normalization of supply chains and the unclogging of supply bottlenecks will be 2 key determinants of the slope of sequential inflation trends in 2022. One important example is the case of motor vehicles, which have been an important source of upside in inflation in recent months. Constraints on new car supply, largely due to supply-chain issues and the semiconductor shortage, have driven up new car prices by 21% and used cars by 43% from their summer 2020 lows.

This surge in prices has coincided with a significant imbalance in supply and demand. Exhibit 45 shows our estimates of underlying demand for motor vehicles, estimated based on demand-side input only, as well as actual and industry forecasts for auto supply. Comparing the two, we estimate that underlying auto demand has exceeded supply by a cumulative 4 million units since the start of the pandemic, which represents a total worth a full quarter of vehicle production.

The good news is that vehicle supply is projected to pick up into early 2022 as semiconductor supply becomes more plentiful, which should begin to chip away at some of the wedge between supply and demand for autos. As that wedge diminishes, we anticipate the pace of price increases for autos, both new and used, should begin to cool. As we get into the second quarter, when we estimate that supply should begin to exceed underlying demand, we expect that prices for autos should begin a process of moving off of their peaks.

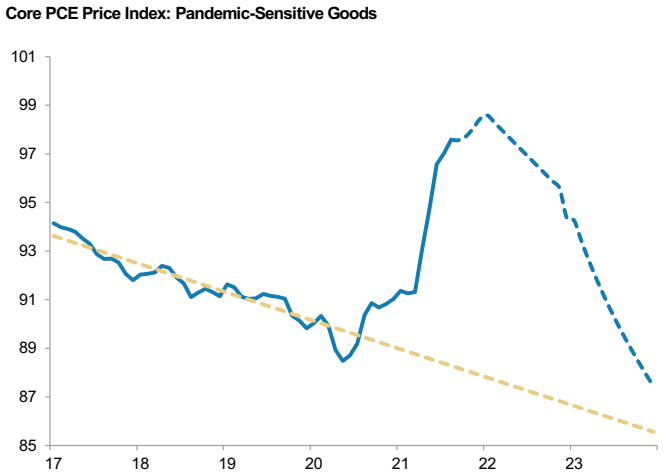
Based on our expectations for how supply chains will evolve in 2022 more broadly, this dynamic between supply, demand, and prices is representative of what we have included in our baseline forecast across the full basket of supply-affected, pandemic-sensitive goods over the course of the next year. Exhibit 46 charts the recent trajectory of the price level for this basket of goods alongside the trajectory embedded in our baseline forecast for how the prices of these goods will evolve over the next 2 years. After peaking in early 2022, our baseline forecast shows the prices of these goods beginning to decline in 2Q22, with that decline steepening into the end of next year and early 2023 as supply begins to catch up with or exceeds demand. At the end of 2023, we see the price level for this basket of goods remaining about 2.2% above its pre-pandemic trend, consistent with some longer-lasting effects on price levels.

Exhibit 45: Vehicle Supply Has Undershot Counterfactual Demand by 4 million Units Since 2020



Note: Counterfactual demand reflects model estimates of motor vehicle sales based on demand-side inputs only. Unit supply reflects realized motor vehicle sales and IHS expected vehicle supply.
Source: IHS, Morgan Stanley Research

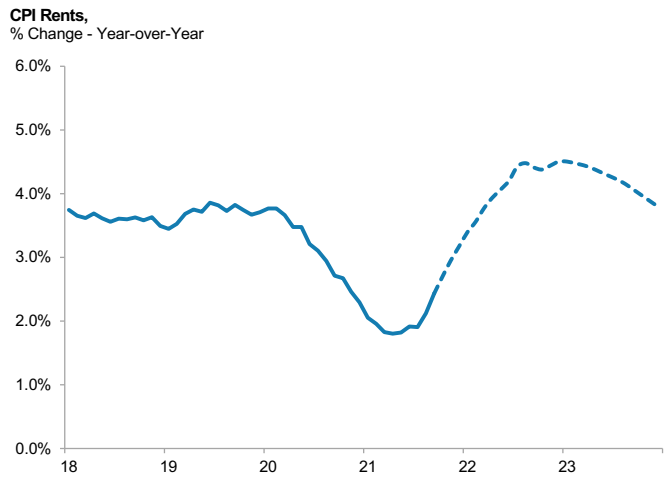
Exhibit 46: Prices of Pandemic-Sensitive Goods Should Move Lower as Supply Conditions Normalize



Source: Bureau of Economic Analysis, Morgan Stanley Research

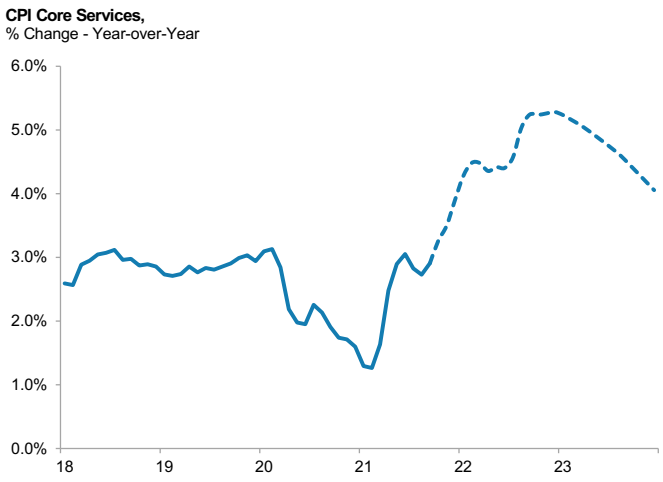
Cooling price pressures in core goods will help to take measure of core inflation off of their peaks, but we see continued strength in core services prices supporting the underlying inflation trend. Increases in core services prices are likely to continue to be led by shelter – we see continued gains in rents and owners' equivalent rents putting the indices on track to reach around 4.5% year over year at the end of next year Exhibit 47. On balance, we anticipate that CPI core services prices will rise 5.3% over the course of 2022 (Exhibit 48).

Exhibit 47: Outlook for CPI Rents



Source: Bureau of Labor Statistics, Morgan Stanley Research

Exhibit 48: Outlook for CPI Core Services

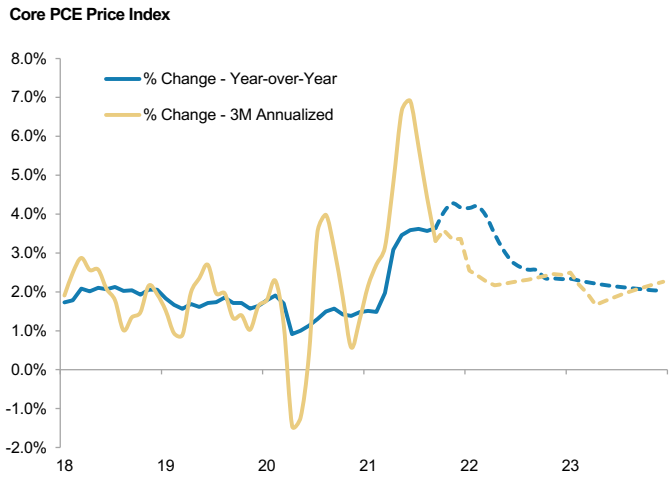


Source: Bureau of Labor Statistics, Morgan Stanley Research

We expect these factors will combine to mean that inflation will cool sequentially over the course of the next year, while remaining at elevated year-over-year rates. Exhibit 49 charts our forecasted trajectory for core PCE inflation alongside its 3-month annualized trend; Exhibit 50 charts the same for core CPI inflation. We see core PCE inflation remaining above 3% on a 12-month basis until June 2022, but the 3-month annualized rate of core PCE inflation moves below 3% in our forecasts well before that, in January 2022, and runs below 2.5% from February 2022 onward. Core PCE inflation ends in

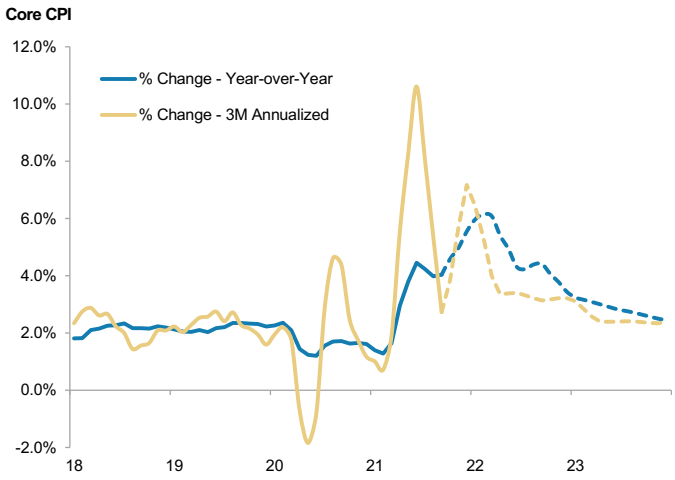
December 2022 in our forecasts at 2.4% year over year, before moderating further to 2.0% at the end of 2023. Core CPI inflation in our forecasts ends next year somewhat higher, at 3.4% year over year, owing largely to divergence in medical inflation trends across the two inflation measures as well as the higher weight assigned to shelter in the CPI.

Exhibit 49: Baseline Forecast for Core PCE Inflation



Source: Bureau of Economic Analysis, Morgan Stanley Research

Exhibit 50: Baseline Forecast for Core CPI Inflation



Source: Bureau of Labor Statistics, Morgan Stanley Research

Monetary & Fiscal Policy: Room to Breathe

The economy has delivered substantial progress toward the goals of the FOMC, and so the Fed has begun reducing the pace of its monthly large scale asset purchases (LSAPs). Once purchases are reduced to zero – we expect June 2022 – the Fed will reinvest maturing assets to hold its balance sheet steady. On our forecasts, the labor market is close to maximum employment by end-2022 and the Fed first lifts rates in 1Q23.

Monetary policy

We expect the Fed to continue on its indicated path of steady reductions in asset purchases by $10bn and $5bn, respectively, of Treasury and mortgage securities. This puts asset purchases on a path to decline to zero by June next year, but we expect reinvestment of maturing assets to continue, keeping overall balance sheet size constant.

Falling inflation and increasing labor participation in the first half of 2022 should alleviate pressures to hike too early. Based on our forecasts of continued increases in labor force participation, we think the Fed will judge that maximum employment still has not been reached even as the headline unemployment rate closes in on its pre-Covid lows. Declining inflation prints should reduce fears of overheating and leave policymakers focused on the strong labor market recovery, despite inflation remaining above target for longer. **By the first quarter of 2023, labor market conditions should be strong and broad enough for the Fed to move toward a first rate hike.**

From there on out, we expect the tightening cycle to proceed at a gradual pace with two hikes a year, in line with the Fed's experience in the previous cycle. The Fed raised rates in late 2015 and indicated four hikes were to follow in 2016. In response, financial conditions ratcheted tighter than the Fed intended and ultimately it delivered just one of those hikes in 2016. In 2018, the Fed finally redefined its gradual pace by raising rates four times, compared with eight increases historically. **With the Fed recognizing the asymmetric risks of raising rates too quickly when at the zero lower bound, we think it will redefine the new gradual as a maximum two rate hikes per year.**

Exhibit 51: Changeover in the executive positions at the Federal Reserve Board

	End of term as Chair or Vice Chair	End of term as Governor
Powell	**February-22**	January-28
Bowman	n.a.	January-34
Brainard	n.a.	January-26
Clarida	**January-22**	January-22
Quarles	**October-21**	December-21 (resigned)
Waller	n.a.	January-30
Vacant	n.a.	January-24

Source: Federal Reserve, Morgan Stanley Research

Fed personnel changes will also lead to changes in tone and communication. We expect President Biden to reappoint Chair Powell, but surround him with a dovish set of new appointees.[4] In addition to the end of Vice Chair Clarida's term this coming January, the resignation of Governor Quarles that will go into effect in December means that the administration now has at least two board seats to fill, in addition to the Chair and two Vice Chair nominations.[5] Exhibit 51 displays the expiry of current positions on the Board of Governors (BoG). Governors are appointed by the president and approved by the Senate for 14-year terms.

Turnover at the BoG will also be matched with a reshuffling of FOMC voters and regional Fed presidents, such as with the incoming leadership replacements at the Dallas and Boston Fed. This shuffling takes place at the January FOMC meeting as part of its annual "housekeeping". **The changes will be most felt in the March 2022 Summary of Economic Projections (SEP), the first one to incorporate the forecasts of new participants.**

Exhibit 52 details **the path to rate hikes**, laid out in Fed communication around the data flow. With core inflation reaccelerating now, we expect the FOMC to revise upward its median forecast for inflation, with the possibility for the dot plot to show one hike in 2022 (the Chair maintains a gravitational pull at zero). By the March 2022 meeting, new participants on the FOMC push the 2022 median hike down to 0.5.

Exhibit 52: Fed Communication changes over the forecast horizon

Evolution of Fed Communication				
Month	**Data in-hand on inflation**	**Key statement language**	**Key press conference comments**	**Dot plot and SEP considerations**
December	(Nov) 12m core 4.1; 3m 3.6	Inflation is elevated, largely reflecting factors that are expected to be transitory. Risks to the upside	Inflation is elevated and will likely remain so in coming months. In terms of our other objective, we continue to welcome further gains in employment and labor supply as we continue to move toward full employment. We have two objectives.	Revise up inflation for 2021 at least 35bps. Potential upward revision to 2022 inflation forecast by ~10bp, and 2022 dot plot median still at 0.5 or up to 1 full hike, Powell still at zero.
January	(Dec) 12m core 4.0; 3m 3.0	Inflation is elevated, largely reflecting factors that are expected to be transitory. Risks to the upside	Inflation is elevated and will likely remain so in coming months. In terms of our other objective, we continue to welcome further gains in employment and labor supply as we continue to move toward full employment. We have two objectives.	N/A
March	(Feb) 12m core 4.1; 3m 2.4	Inflation is elevated, largely reflecting factors that are expected to be transitory. Risks to the upside	Inflation is elevated and will likely remain so in coming months. There is some evidence from recent monthly prints that we may be seeing some moderation, but it is too soon to draw confidence. Recall that we have two objectives, inflation and employment. We continue to look at gains in employment and recovery in labor supply as pointing to the economy still moving toward full employment.	New members on the Board and at Reserve Banks. 2022 median comes in at 0.5 hike or back down to zero, with Powell and Board remaining at no hikes, and SEP inflation forecasts remaining unrevised.
May	(Mar) 12m core 3.9; 3m 2.4	Inflation is elevated, largely reflecting factors that are expected to be transitory. Risks to the upside	Inflation is elevated and will likely remain so in coming months. There is some evidence from recent monthly prints that we may be seeing some moderation, but it is too soon to draw confidence. Recall that we have two objectives, inflation and employment. We continue to look at gains in employment and recovery in labor supply as pointing to the economy still moving toward full employment.	N/A
June	(May) 12m core 3.0; 3m 2.3	Inflation is elevated, but appears to be moderating as transitory factors recede. Risks more balanced.	Inflation remains elevated, but we are starting to see the moderation that we have been expecting. It is too soon to know just how far that moderation will go, so we have to be vigilant. We are about to finish our QE program, and will discuss any next steps at upcoming meetings. We have two criteria for raising rates. The inflation criterion has been met, but we continue to look for more advancement toward full employment.	Little change to the 2022 SEP
July	(Jun) 12m core 2.6; 3m 2.3	Inflation is elevated, but appears to be moderating as transitory factors recede. Risks more balanced.	Inflation remains elevated, but we are starting to see the moderation that we have been expecting It is too soon to know just how far that moderation will go, so we have to be vigilant. That said, we have just finished our QE program, inflation has moderated notably from where it was at the beginning of the year. As we begin to consider next steps, the moderation of inflation allows us to focus on the fact that labor supply has been recovering and we continue to move toward full employment	N/A
September	(Aug) 12m core 2.4; 3m 2.3	Inflation has moved down as transitory factors have receded, running moderately above our 2% goal.	Inflation remains elevated, but we have seen the moderation that we have been expecting. It is too soon to know just how far that moderation will go, but inflation is noticeably lower than it was at the beginning of the year. And with respect to our second objective, we continue to see signs that the journey to full employment continues, but is taking time.	2025 inflation initiated at 2.0%, some 2022 dots begin shifting out to 2023.
November	(Sep) 12m core 2.4; 3m 2.3	Inflation running moderately above our 2% goal	Inflation is running a bit above our long-run goal of 2 percent but has moderated substantially from the highs of earlier this year. We need to continue to monitor the path, but a moderate overshoot of inflation for a couple of years is consistent with our goals of inflation expectations anchored at 2% and inflation over the long run averaging 2 percent.	N/A
December	(Nov) 12m core 2.4; 3m 2.4	Inflation running moderately above our 2% goal	Inflation has moderated notably over the course of the year but is still running moderately above our 2 percent target. Employment gains have been sustained over the course of the year, and labor supply has substantially recovered. Although we do not know what permanent effect Covid has had, it as if we could be closing in on full employment, and could well get there in coming months.	Vast majority of dots show liftoff in 2023, moderate inflation overshoot in 2023 and 2024, but 2025 inflation still at 2.0%. 2 to 4 rate hikes for the bulk of the dots for 2023 and 2024

Source: Morgan Stanley Research

Once tapering is completed in the middle of 2022, we anticipate policymakers will begin to lay out plans for eventual balance sheet normalization. While debate about the exact shape of those normalization plans will remain live, **we expect that balance sheet reduction is unlikely to begin before 2024.** We see the FOMC likely drawing upon the playbook from the last cycle, under which they preferred to communicate changes in monetary policy using the fed funds rate – i.e., getting the process of raising rates off of zero well underway before reducing the size of the balance sheet. In the prior cycle, it was only once the fed funds rate was above 1% that the FOMC paused on rate hikes in order to initiate balance sheet runoff.

Once balance sheet normalization begins, we expect the FOMC will implement caps on reinvestments, which specifically would entail continued reinvestments up to a specified cap amount, and allowing maturing securities and principal payments above those caps to begin reducing the size of the balance sheet. Such a strategy would also likely continue to treat Treasuries and MBS proportionately.

As the debate about balance sheet normalization will remain live, we expect to hear at least some policymakers make arguments along the lines of those recently made by staff economists at the Kansas City Fed that the FOMC might consider reducing the balance sheet before raising the federal funds rate in order to affect the shape of the yield curve and "forestall yield curve inversion". While this debate will gather momentum next year, we do not currently see this outcome in our base case.

Fiscal Policy

In our forecasts, public investment picks up as infrastructure and green capex programs are rolled out. Congress has passed the $1.2tn Infrastructure Investment and Jobs Act

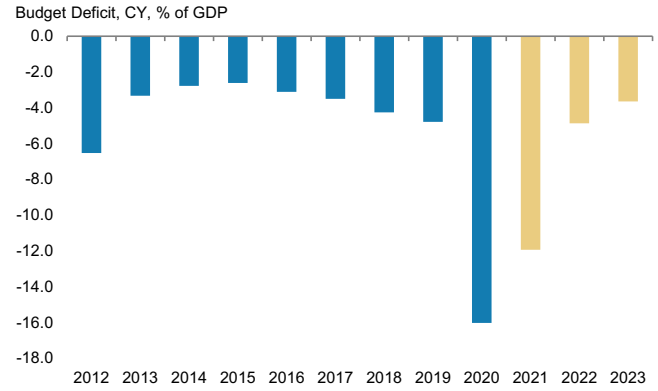
(also known as BIF, the Bipartisan Infrastructure Framework), in line with the expectation of our policy strategists. Under separate debate is the Build Back Better plan, which our strategists expect to pass before end-2021. **All in, our policy team expects these packages to result in a year 1 deficit expansion of around $300bn. We forecast a deficit-to-GDP ratio of 11.9% in CY21, 4.9% in CY22, 3.6% in CY23 (Exhibit 53).** While the deficit path implies a strong negative fiscal impulse to the economy, we would note that the headline numbers likely overstate the growth effect of deficits this year and understate it for 2022 and 2023. While transfers have made up a very large part of fiscal spending this year, those have only partially entered the economy so far, given the large amounts of built-up savings. In contrast, infrastructure and direct spending is likely to have a stronger and more immediate effect on GDP even as total spending numbers are lower.

Infrastructure and other direct spending contributes roughly 0.4pp to our growth forecasts in 2022 and 0.15pp in 2023 (on a 4Q/4Q basis), with longer-term economic implications that are positive and structurally important. Not only is infrastructure a high-multiplier fiscal spending category, it is also one that has been persistently below trend for the past decade (Exhibit 54). To size it up, at the end of 2020, government investment spending ran just about $110bn below its longer-term trend in a continuation of a decade-long shortfall where the persistent underinvestment has added up to more than $1.25tn. At a more detailed level, a significant component of the shortfall remains in the "economic affairs" category of government spending by function, which includes transportation highways, air, water, transit and railroad, space and "other economic affairs."

Fiscal multipliers for infrastructure can be meaningfully larger compared with other types of spending. Short-run macroeconomic effects are influenced by the timing of investments (how long projects take) as well as any multiplier effects from increases in demand, which are, in part, driven by how far the economy is from full employment. Speed of execution is particularly important in assessing how quickly impacts can be seen in broader economic activity after an infrastructure spending plan is passed. For example, an infrastructure project typically takes time to develop formal plans, to bid out, and then finally to build. **In our forecasts, meaningful impact is first seen in 4Q22.**

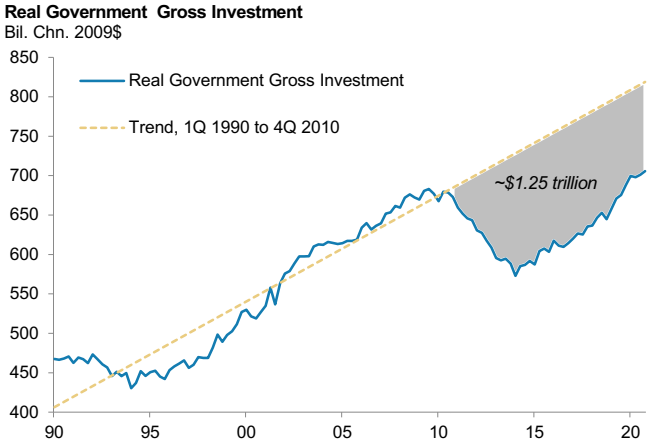
Finally, expanded infrastructure investment and its implications for the capital stock could also have positive longer-term implications for productivity and potential GDP growth trends. We estimate that a sustained expansion of infrastructure spending could raise US potential real GDP growth by 0.1-0.2pp, primarily a reflection of the increased productivity gains associated with boosting the capital stock

Exhibit 53: The fiscal deficit will decline in 2022 and 2023 but remain sizable



Source: BEA, Morgan Stanley Research

Exhibit 54: Government investment has been running below trend since 2010

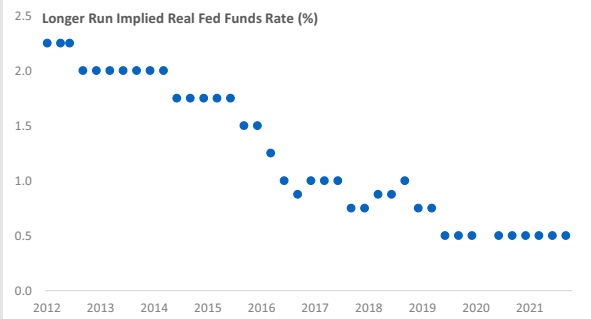


Source: BEA, Morgan Stanley Research

How High Can Rates Rise? Terminal Is Not Neutral

How high can the Fed Funds rate rise over the course of the coming tightening cycle? Even as interest rate markets are pricing a much earlier rise in the Fed Funds Rate than we anticipate in our forecasts, they currently are only pricing a total of six hikes over the course the tightening cycle. Given the presence of (substantial) risk premia, market pricing does not always translate into expectations of economic outcomes one-for-one. But the path of interest rate curves indicates that investors expect the coming tightening cycle to be a shallow one with a terminal rate far below that of previous cycles, and even lower than the last cycle, which saw the economic recovery disrupted by global trade tensions.

Exhibit 55: The Fed's projections for the long-term real rate have declined to 0.5% from 2.0% at first publication



Note: Calculated as the difference between the SEP's median expectations of the long run Federal Funds rate and PCE inflation. Source: Federal Reserve Board, Morgan Stanley Research

Are expectations of a very low terminal Fed Funds rate justified? We think that the terminal rate is likely going to be lower than in pre-GFC cycles, but not as low as markets currently indicate, for three key reasons:

1. **The neutral rate has fallen…:** While estimates differ, neutral rates have

fallen substantially in recent decades. The Fed's current SEP pegs the long-run real Fed Funds rate at 50bp, down from more than 200bp a decade ago. This reflects the recognition that secular changes in the fundamentals of the economy, such as lower productivity and lower population growth have brought down the level of interest rates that is consistent with full utilization of the US economy. Increasing labor inputs have added 1.1 ppts per year on average to real GDP growth since 1980. For the coming decade, the contribution is likely to fall to 40bp. Productivity growth, especially difficult to forecast, averaged only 1.2% over the past decade, half of what it averaged over the previous three decades, though productivity gains from the pandemic and government-led infrastructure investment should provide a boost. Other fundamental factors, such as demographics, wealth inequality, or large outstanding debt burden, public or private, provide additional anchors for a low neutral rate. However, our modeling work on fiscal sustainability, we find that even under current spending assumptions, the debt-stabilizing real rate is likely above where markets are currently pricing it, even under moderate productivity growth assumptions.

Exhibit 56: 2030 Debt to GDP ratio projections indicate that the average debt-stabilizing real interest rate is between -0.5 to +0.5%

		Real GDP Growth (%)					
		1	1.5	1.8	2	2.25	2.5
Real Interest Rate (%)	1.5	157	152	148	146	143	141
	1	150	145	142	140	137	134
	0.5	144	138	135	133	131	129
	0.25	140	135	132	130	128	126
	0	137	132	129	127	125	123
	-0.25	134	129	126	125	122	120
	-0.5	131	126	124	122	120	117
	-1	125	121	118	116	114	112
	-1.5	120	115	113	111	109	107

Note: Estimates based on MS forecasts through 2022, and CBO projections for labor and capital growth contributions thereafter. MS forecasts of the budget deficit through 2022, CBO primary deficit forecasts thereafter. Source: CBO, Morgan Stanley Research

2. **…but the terminal rate is not the same as the neutral rate:** Importantly, the neutral rate defines the interest rate at which monetary policy is neither expansionary nor contractionary. As long as interest rates remain below the neutral rate, monetary policy is still accommodative and – on the margin – accelerates economic growth. If the Fed needs to throttle the economic expansion in coming years, it will be forced to move rates above the neutral rate. While the fall in the neutral rate shifts the baseline down between accommodative and restrictive interest rates, but it does not change the relative relationship between neutral and terminal rates.

3. **Gradual tightening making a higher terminal rate possible:** One of the key changes in the Fed's approach to tightening policy in the last cycle was the commitment to increase interest rates only gradually. Policymakers have indicated that the pace of two interest rate hikes a year may be the optimal speed for the economy to digest policy changes without causing indigestion in financial markets and debt overhangs that could spill into the real economy. With still-elevated debt levels, this concern has not gone away, and while other motives may push the FOMC to hike interest rates faster, we think that the pursuit of a gradual policy approach is likely to be the most successful in

preserving the economic expansion. With inflation pressures declining from early 2022 onwards, as well as continued improvements in employment and labor force participation, the Fed is likely to have breathing room to move gradually on policy. This should extend the longevity of the economic and the eventual tightening cycle, enabling the terminal rate to rise higher above neutral along the way.

Full Forecast Table

For our full forecast table in Q/Q, Y/Y, and levels format in excel, see here.

Exhibit 57: Summary table: Outlook for US real GDP growth and other major indicators

	Year over Year					4th Qtr/4th Qtr					from Prior Quarter*																		
	2019A	2020A	2021E	2022E	2023E	2019A	2020A	2021E	2022E	2023E	1Q19A	2Q19A	3Q19A	4Q19A	1Q20A	2Q20A	3Q20A	4Q20A	1Q21A	2Q21E	3Q21A	4Q21E	1Q22E	2Q22E	3Q22E	4Q22E	1Q23E	2Q23E	3Q23E	4Q23E
Real GDP (Chn. 2012$)	**2.3**	**-3.4**	**5.5**	**4.6**	**3.7**	**2.6**	**-2.3**	**4.9**	**4.9**	**3.1**	**2.4**	**3.2**	**2.8**	**1.9**	**-5.1**	**-31.2**	**33.8**	**4.5**	**6.3**	**6.7**	**2.0**	**4.5**	**4.7**	**5.3**	**4.9**	**4.6**	**2.7**	**3.4**	**3.2**	**2.9**
Final Sales	2.2	-2.9	5.4	3.6	3.3	2.9	-2.6	5.1	3.8	3.2	1.9	3.8	3.1	2.9	-4.6	-27.6	25.9	3.4	9.1	8.1	-0.1	3.4	4.1	4.6	3.2	3.5	3.0	3.4	3.4	2.9
Final Domestic Demand	2.4	-2.5	6.5	3.5	3.3	2.5	-1.3	5.3	3.9	3.1	1.5	4.2	3.0	1.5	-4.4	-27.3	29.9	5.0	10.4	8.0	1.0	2.1	4.0	4.8	3.4	3.3	2.9	3.4	3.2	2.8
Personal Consumption Expenditures	2.2	-3.8	7.8	3.2	3.1	2.3	-2.4	6.5	3.3	3.0	0.6	3.6	3.2	1.7	-6.9	-33.4	41.4	3.4	11.4	12.0	1.6	1.4	2.1	4.8	3.4	3.0	2.5	3.1	3.1	3.3
Business Fixed Investment	4.3	-5.3	7.7	5.9	5.6	3.1	-3.8	7.9	5.9	5.3	4.7	6.7	2.9	-1.6	-8.1	-30.3	18.7	12.5	12.9	9.2	1.8	7.8	5.3	6.3	6.1	5.7	5.6	5.5	5.4	4.8
— Structures	2.1	-12.5	-7.9	-0.6	3.0	5.8	-20.0	-1.3	1.4	3.6	4.4	14.3	14.0	-8.0	-0.8	-46.8	-15.3	-8.2	5.4	-3.0	-7.2	0.1	-0.2	0.8	1.9	3.3	2.8	3.4	3.9	4.2
— Equipment	3.3	-8.3	13.4	5.6	5.7	-0.9	-0.3	7.9	5.4	5.7	4.4	2.5	-5.1	-4.9	-21.4	-36.2	55.9	26.5	14.1	12.2	-3.2	9.6	5.4	6.4	5.6	4.3	6.8	5.7	5.6	4.7
— IPP	7.2	2.8	10.5	9.3	6.7	6.3	2.5	12.5	8.3	5.7	5.4	7.2	6.1	6.7	3.8	-10.6	8.0	10.2	15.6	12.5	12.2	9.7	7.8	8.8	8.6	8.2	5.6	6.2	5.8	5.1
Residential Investment	-0.9	6.8	8.4	-1.5	3.3	2.2	15.7	-4.4	3.5	3.1	0.1	4.1	3.6	1.1	20.3	-30.8	60.0	34.4	13.3	-11.7	-7.7	-9.4	3.3	3.8	4.2	2.9	3.2	3.6	3.0	2.7
Exports	-0.1	-13.6	4.1	6.7	7.6	0.3	-10.7	2.5	8.2	6.8	3.1	-2.2	-0.8	1.2	-16.3	-59.9	54.5	22.5	-2.9	7.6	-2.5	8.4	7.7	8.2	8.2	8.7	7.8	7.1	6.4	6.0
Imports	1.1	-8.9	12.8	5.3	6.3	-2.1	0.3	4.9	7.4	5.2	0.0	1.7	-1.1	-8.5	-13.1	-53.1	89.2	31.3	9.3	7.1	6.1	-2.5	6.0	8.8	8.4	6.4	6.3	5.8	4.7	4.2
Government	2.2	2.5	0.7	1.7	2.1	3.2	1.2	1.2	2.2	2.0	2.7	5.0	2.1	3.0	3.7	3.9	-2.1	-0.5	4.2	-2.0	0.8	1.9	2.7	1.7	1.9	2.3	2.1	2.2	1.9	1.7
— Federal Government	-2.6	0.0	0.5	0.3	3.0	-1.0	1.2	0.1	1.3	3.0	1.5	8.9	3.6	3.5	2.4	20.6	-5.4	-3.2	11.3	-5.3	-4.7	-1.4	2.6	-0.1	0.5	-1.2	0.1	0.3	0.1	0.7
— State & Local Government	0.2	3.0	2.8	0.6	0.4	0.0	0.0	0.0	0.4	-0.3	3.6	2.7	1.1	2.7	4.5	-5.5	0.1	1.2	-0.1	0.2	4.4	4.1	2.8	2.9	2.7	4.5	3.3	3.4	3.0	2.3
Nominal GDP (Current $)	**4.1**	**-2.2**	**9.7**	**8.9**	**6.2**	**4.2**	**-1.0**	**10.6**	**8.0**	**5.4**	**3.7**	**5.6**	**4.1**	**3.6**	**-3.9**	**-32.4**	**38.7**	**6.6**	**10.9**	**13.4**	**7.8**	**10.4**	**8.7**	**8.5**	**7.6**	**7.1**	**5.3**	**5.9**	**5.4**	**5.0**
Nominal PCE	3.7	-2.6	11.7	6.3	5.1	3.8	-1.3	11.6	5.4	4.9	1.0	6.4	4.3	3.5	-5.7	-34.5	46.6	5.0	15.7	19.3	6.9	5.0	4.3	6.6	5.4	5.3	4.7	4.7	4.9	5.4
Employment & Personal Income																														
Civilian Unemployment Rate (Percent)**	3.7	8.1	5.5	4.1	3.4	3.6	6.8	4.7	3.6	3.2	3.9	3.7	3.6	3.6	3.8	13.1	8.8	6.8	6.2	5.9	5.1	4.7	4.7	4.2	3.9	3.6	3.5	3.4	3.3	3.2
Civilian Labor Force Participation Rate (Percent)	63.1	61.7	61.7	62.3	62.6	63.2	61.5	61.8	62.4	62.7	63.1	62.9	63.1	63.2	63.1	60.8	61.5	61.5	61.4	61.6	61.7	61.8	62.2	62.2	62.3	62.4	62.5	62.6	62.7	62.7
Employmnet to Population Ratio	60.8	56.8	58.3	59.7	60.5	61.0	57.4	58.9	60.1	60.7	60.7	60.6	60.9	61.0	60.7	52.9	56.1	57.4	57.6	58.0	58.5	58.9	59.3	59.6	59.9	60.1	60.3	60.5	60.6	60.7
Average Monthly Change in Nonfarm Payrolls (Thous.)	168	-785	552	278	181						118	152	203	197	-360	-4333	1342	213	518	615	629	447	279	309	281	244	199	187	176	164
Nominal Disposable Personal Income	3.8	7.5	5.5	1.3	4.9	3.2	5.2	4.3	5.7	4.8	3.9	1.3	3.4	4.1	4.3	46.1	-13.6	-6.9	60.6	-25.7	-0.6	-0.2	4.6	6.2	6.1	6.0	1.7	5.9	5.8	5.8
Real Disposable Personal Income	3.4	6.2	1.8	-1.6	2.9	1.7	4.0	-0.5	3.6	2.9	3.3	-1.4	2.3	2.4	3.1	48.5	-16.6	-8.3	54.7	-30.2	-5.6	-3.6	2.4	4.3	4.1	3.7	-0.4	4.2	4.1	3.8
Personal Savings Rate	7.7	16.4	11.9	7.9	7.8	7.4	13.6	7.7	8.1	8.0	8.6	7.4	7.2	7.4	9.7	26.1	16.0	13.6	20.5	10.5	8.9	7.7	7.8	7.8	7.9	8.1	7.5	7.8	7.9	8.0
Employmnet Cost Index	2.7	2.6	3.3	4.4	4.0	2.7	2.5	4.1	4.1	4.1	2.7	2.7	3.0	2.6	2.9	2.3	2.0	2.9	3.7	2.8	5.4	4.7	4.4	4.1	4.0	3.9	4.0	4.0	4.2	4.3
Inflation (Year-over-Year)^																														
Consumer Price Index	1.8	1.2	4.6	4.8	2.4	2.0	1.2	6.6	3.0	2.2	1.8	1.8	1.8	2.0	2.1	0.4	1.3	1.2	1.9	4.8	5.3	6.6	6.7	5.2	4.2	3.0	2.6	2.5	2.3	2.2
CPI ex Food & Energy	2.2	1.7	3.6	4.7	2.8	2.3	1.6	5.0	3.8	2.5	2.1	2.1	2.3	2.3	2.2	1.3	1.7	1.6	1.4	3.7	4.1	5.0	6.1	4.9	4.3	3.8	3.2	2.9	2.7	2.5
PCE Price Index	1.5	1.2	3.7	2.9	1.9	1.5	1.2	4.8	2.0	1.9	1.4	1.5	1.5	1.5	1.7	0.6	1.2	1.2	1.8	3.9	4.3	4.8	4.3	3.2	2.3	2.0	2.0	2.0	1.9	1.9
PCE ex Food & Energy	1.7	1.4	3.1	2.9	2.2	1.6	1.4	3.9	2.3	2.0	1.7	1.7	1.8	1.6	1.8	1.0	1.5	1.4	1.7	3.4	3.6	3.9	3.9	2.9	2.4	2.3	2.3	2.2	2.1	2.0
Monetary Policy																														
Fed Funds Target (%, midpoint of target range)^						1.625	0.125	0.125	0.125	0.625	2.375	2.375	1.875	1.625	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.375	0.375	0.625	0.625
Fed Balance Sheet (EOP, Bil. $)											3956	3827	3858	4166	5254	7082	7056	7242	7328	7453	8448	8718	8901	8954	8942	8929	8917	8905	8893	8881
Business Indicators																														
Industrial Production	-0.8	-7.2	7.0	6.1	2.5	-2.1	-4.3	8.1	3.4	2.5	-3.6	-2.3	0.0	-2.6	-6.7	-42.4	44.5	8.2	4.0	6.4	13.5	8.6	5.3	3.5	2.6	2.5	2.5	2.5	2.5	2.5
Housing Starts (Thous.)	3.6	8.1	12.2	8.1	3.4																									
Federal Gov't Surplus / Deficit (CY, % of GDP)	-4.8	-16.0	-11.9	-4.9	-3.6																									
Current Account, % of GDP	-2.2	-3.1	-3.2	-2.4	-2.4																									

Note: E = Morgan Stanley estimates, A = Actual; *Annualized percent change from prior period; **Year over Year is annual average; ^ 4th Qtr/4th Qtr is 4Q average.
Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, Census Bureau, Morgan Stanley Research

Endnotes

1 BLS FAQ: Why do average annual expenditures exceed income for some of the demographic groups? How can consumer units spend more than they earn? Data users may notice that average annual expenditures presented in the income tables sometimes exceed income before taxes for the lower income groups. Consumer units whose members experience a spell of unemployment may draw on their savings to maintain their expenditures. Self-employed consumers may experience business losses that result in low or even negative incomes, but are able to maintain their expenditures by borrowing or relying on savings. Students may get by on loans while they are in school, and retirees may rely on drawing down savings and investments.

2 The spending counterfactual is the pre-Covid trend in level spending for each category,

3 The ECI more appropriately accounts for the changes in the composition of the labor force than average hourly earnings, which should experience some downward pressure sequentially from the composition effect of a return to employment of low-wage workers.

4 In any event, Governor Brainard is the likely choice if not Powell and both candidates influence the outlook for monetary policy similarly.

5 We do not expect a nomination to Vice Chair of banking supervision, a seat created by Dodd-Frank and left vacant for years prior to Quarles, and can again be left vacant.

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