NOVEMBER 20, 2020

THE WEEKLY REPORT

The world was flying high and on an upward trajectory two years ago, at least when it came to economic growth and the outlook for interest rates. Over the last several months, the outlook for forward inflation has returned within 10bp of where the market saw inflation risk before the December 2018 FOMC meeting.

Going back farther, 5-yr CPI derivatives five years forward (5x5) have returned to the 7-yr average – a calculation *excluding* the period where oil prices plummeted as well as the extended pandemic period for much of 2020. Now, expecting inflation to rise by .50% to .75% from current levels is built into the fixed income. The view inflation is a near-term danger works only if prices move to transcend almost a decade average where the high end of the range for 5x5 was 2.5% and the low was 1.90%.

The chart looks at just the last two years to illustrate current support is at 2.2% with a chance of straying toward 2.3% in early 2021 if all the good forecasts for next year appear to be unfolding as planned.

5x5 CPI Forwards
Derived from CPI Inflation Swaps
November 2018 to Present
Daily

Source: FHN Financial

COVID-19 UPDATE — P. 2

Markets know cases have skyrocketed, but they haven't processed what it means yet. The important first move is to grasp the magnitude of the burden in the US and Europe. We discuss reasons why the reported numbers won't stop going up. Then, some troubling and some positive severity trends.

MARKET UPDATE — P. 9

This week indicated a much clearer translation of how bond investors and traders are pricing different outcomes and risks for the first half of next year. We can identify six separate categories, distilling the information from market flows the last six weeks.

HOUSEHOLD LEVERAGE — P. 11

Everything about the economy changes due to the pandemic. Looking at household borrowing, the big change this year has been the emphasis on increased single-family mortgage debt for higher earning consumers. Is this a 2020 event or is it the beginning of a multi-year trend?

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Becoming Numb to Bigger Numbers

Three core views lurk behind markets' tranquil approach to the pandemic this month, with some first responses:

- Between the media, political campaigns and Fed officials, there have been constant warnings of dire consequences since March. Yet, the economy has recovered faster than anticipated. Are current conditions really that bad? *Public health statistics are really bad because they are national rather than regional. Unfortunately, that's not a reason to discount them.*
- Given the previous two surges in the US, would there really that many vulnerable people left to suffer in the third wave? *The answer is a resounding yes, but that potential doesn't appear to have sunk in yet.*
- This wave will peak just like all the others did. The latest wave has done that already in Europe. *As became apparent after the summer surge, the decline from the peak may not take baseline infections low enough.*

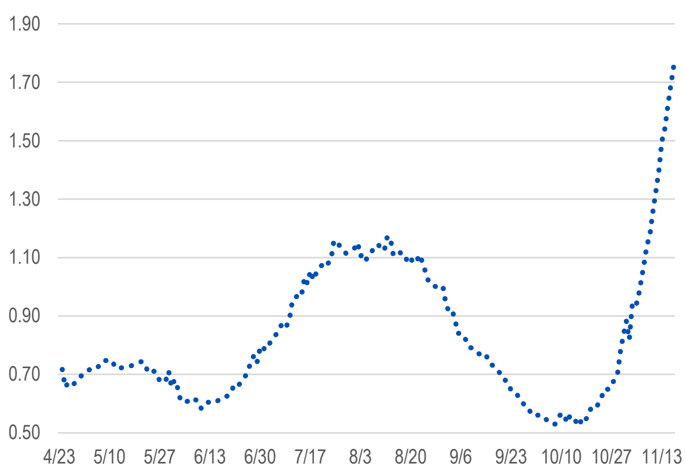
The markets' "it will be all right" pricing may well prove correct. Two things to keep in mind approaching December, though:

- It is very difficult to argue away the scope or the damage of the pandemic this winter. There are no alternative facts; numbers are too devastating.
- Economic forecasts of 2021 remain optimistic partly due to tangible vaccine news and partly due to the fact forecasts were composed in late October for publication this month and early December. Adjusting for the potential of too much residual optimism from last month, we see room for rates to fall before any optimism is rewarded with much higher rates next year.

US cases go vertical in just three weeks

Growth in cases this summer peaked at 33% during the three weeks leading to the middle of July. ***In the 21 days leading to the week of November 16, the number of active cases <u>tripled</u>.***

US Active Covid-19 Cases as Adjusted by FHN Financial
April 24 to November 19
Cases Relative to Changes in Testing Levels over Time
Daily (Millions)

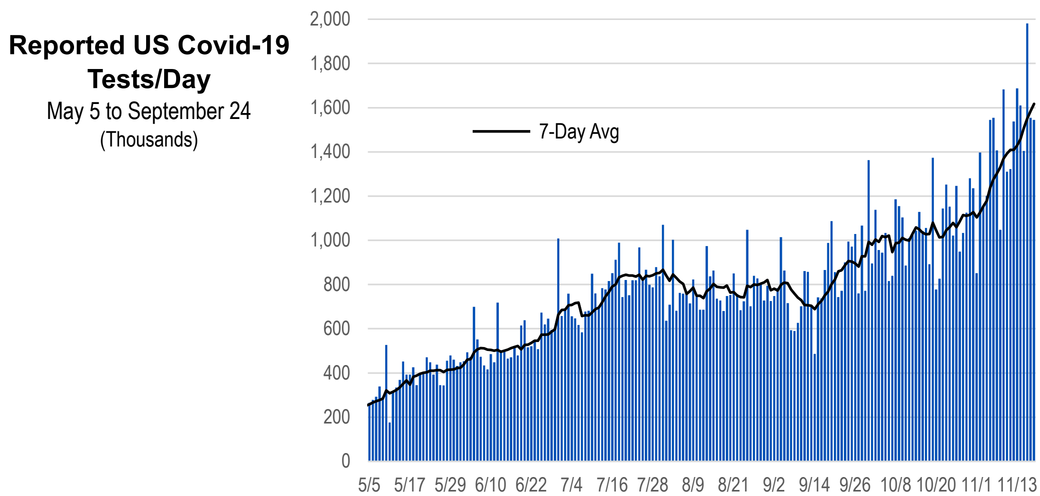


Source: FHN Financial, worldometers

Aside from the nationwide spread this season, this growth rate stems from:

1. More people are feeling sick as it gets colder, then getting tested in case they have Covid-19. And, it turns out many of them do. That is an important reason why the national positivity rate has risen from 5% in early October to more than 12% for the 10-day average in November.
2. Those looking for assurance they are <u>not</u> sick before they travel for Thanksgiving are getting tested and many discover they <u>are</u> infected but asymptomatic. That's one reason daily hospitalizations relative to the number of tests is declining.
3. The retransmission rate in many states has turned bright red. From the middle of August until the end of October, it was rate for the retransmission rate to rise above 1.0 and remain there. This week five large states are in the danger zone.
4. The testing system is becoming more comprehensive. The daily average baseline increased from 800k to 1 million from September to October. The new cases due to the current test rate of 1.6 million/day are adding to the baseline increase just last month.
5. The Implied rate of recovery is slower, particularly relative to this summer. Cases stay active longer than before. This is also visible in the fatality rates relative to hospitalizations.

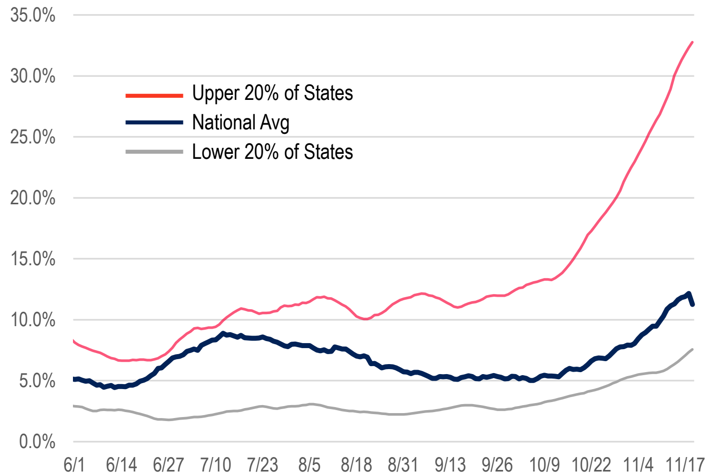
For the reasons listed above, expect the daily average number of tests to continue to climb in December, and possibly January. Unfortunately, the inefficiencies of the existing system, including supply shortages, become worse when the testing lurches skyward like this:



Source: worldometers, FHN Financial

The pervasive spread of the pandemic in new locations spurs the fast increase in positive tests in the 10 states hit the hardest. As seen this summer, when positivity slows in the worst locations it allows the national average to decline. Right now, even the states in the lower 20% are seeing an increase. As noted in the opening, there is no "but, look at these numbers…they're not so bad" as there was from March through October.

Positive Tests/Total
10-Day Moving Averages
June 1 to November 19

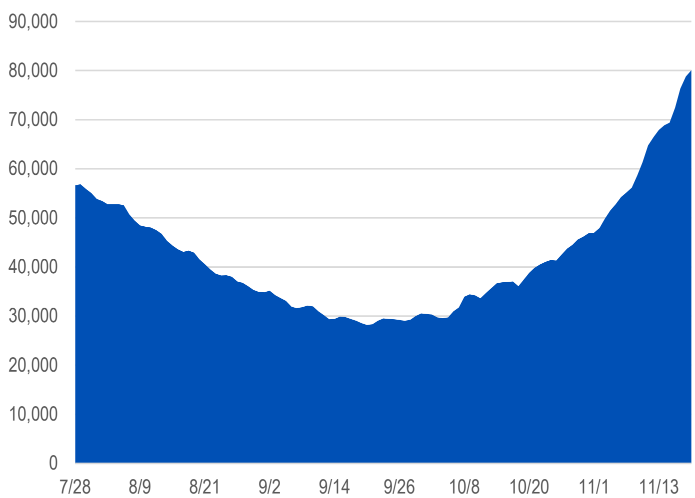


Source: covidtracking.com, FHN Financial

Hospitalizations reflect nationalization of pandemic

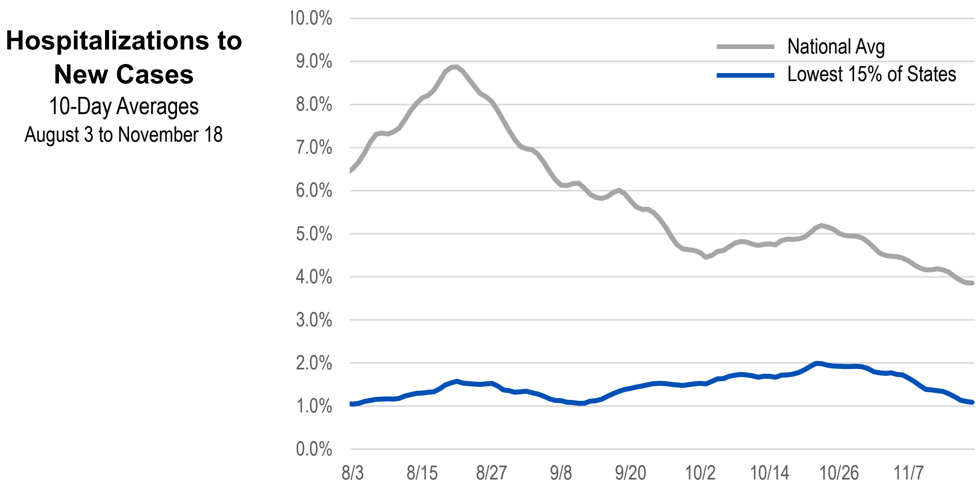
There still are no better numbers for tracking the progress or retreat of a virus outbreak than hospitalizations. The figures defy excuses or attempts to rationalize them into only a modest impact.

Hospitalized Patients
Daily
July 28 to November 18



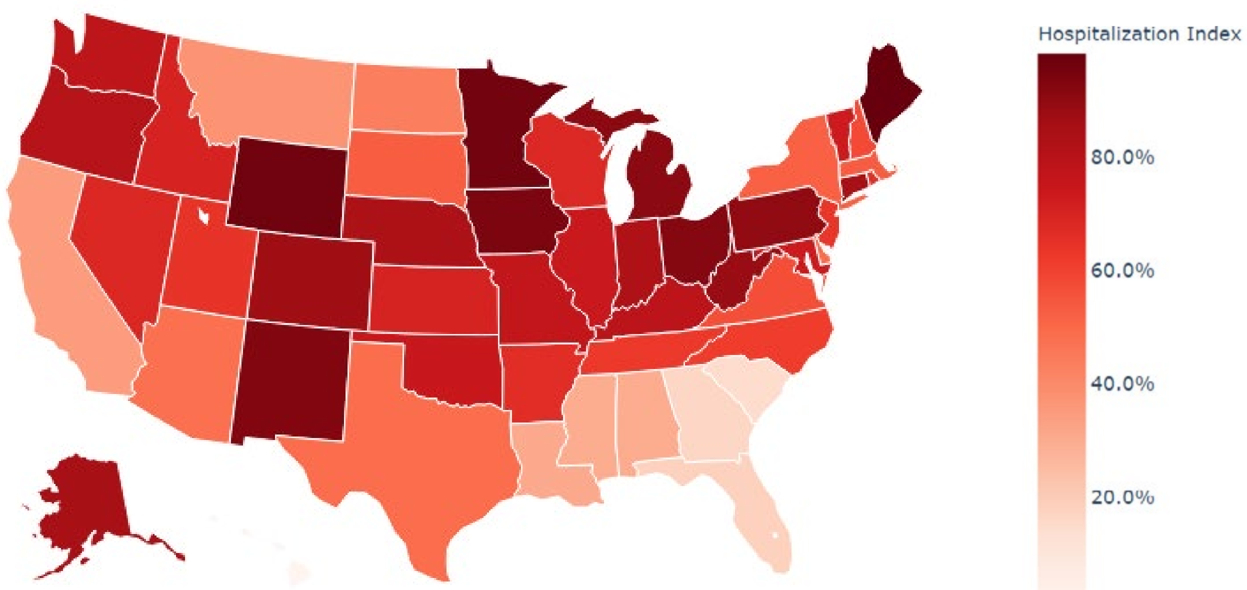
Source: covidtracking.com, FHN Financial

As bad as those numbers are, they could be worse. Hospitalizations lag two important indicators: the number of active cases and the number of positive tests. Here is an updated chart of the 10-day daily average of hospitalizations against the 10-day daily average of positive tests (In the months prior to July, the data were too scattered to chart accurately). The primary reason for the national decline is that hospitalizations in the worst states are lower than in the worst states this summer.



Source: covidtracking.com, FHN Financial

The concentration of hospitalization growth has fallen in the last two weeks. As it spreads out, the color intensity of the hospitalization index for individual states declines, but the broad reach across two-thirds of the states remains intact. Twenty-nine states are at their max hospital utilization for the year. The three fastest growing states are: Maine, Iowa and Wyoming. Here's FHN Financial's Hospitalization Index as of November 19.

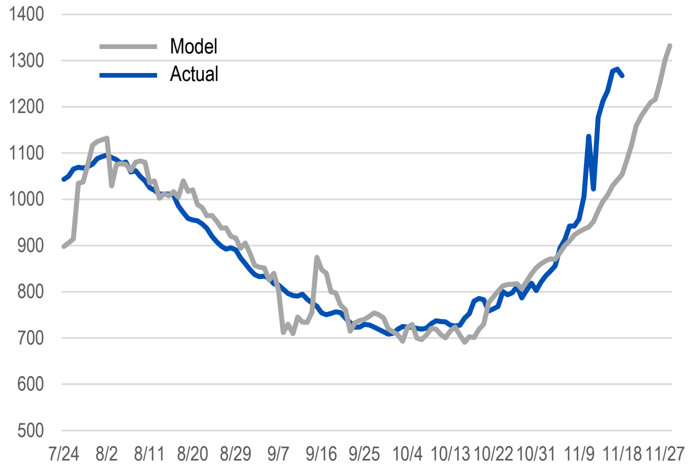


Source: covidtracking.com, FHN Financial

Severity intensifies

Patients hospitalized in recent weeks appear to be much more stressed than those hospitalized this summer. On a lagged analysis, deaths/hospitalized patients are hundreds higher day. The brief dip in the 7-day average of reported deaths is due to reduced reporting on Veterans Day.

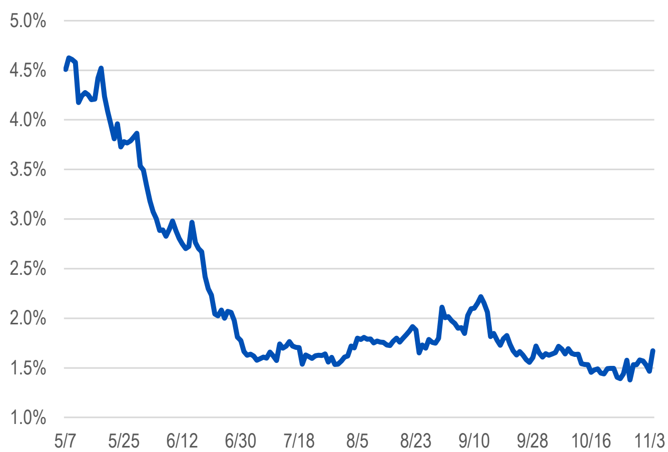
US Average Daily Deaths
Against Model Based on Hospitalizations
Daily (7-Day Avg)
July 24 to November 18



Source: FHN Financial, Bloomberg

In terms of fatalities/new cases, however, the mortality rate is falling:

US Mortality Rates
7-Day Average
Deaths Lagged 15 Days to New Case Reports
Most recent cases = November 5, 2020



Source: Bloomberg, worldometers, FHN Financial

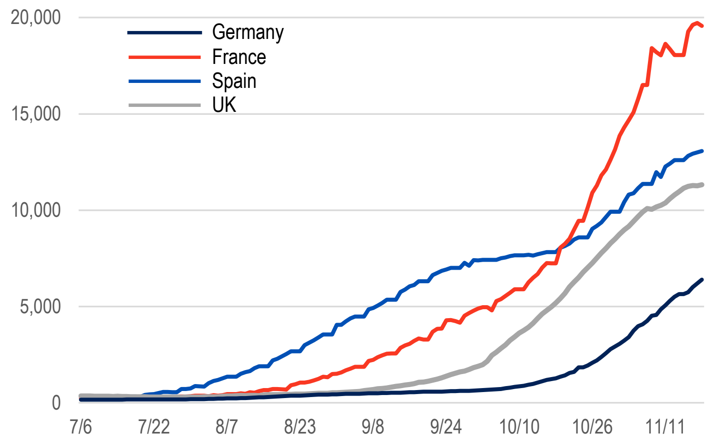
This wave demonstrates two quite different outcomes than this summer. Those hospitalized are sicker, while the larger base of Covid-positive patients who do not have to be hospitalized are weathering the illness better than those this summer.

European cases break records, currently plateauing

In the middle of November, the daily European fatality rate is about 7.5/million, excluding Russia. In the US, the latest total is 6.3/million each day. In the last two months, for example, more than 12,000 have perished in Italy, comparable to the death toll there in the first two months of the spring outbreak.

Public health restrictions took place earlier this month, an attempt in many countries to reopen to celebrate the Christmas holidays. The case plateau is visible in FHN Financial's estimate of currently active cases. Even adjusting for increased testing from the first half of this year, the fall climb was brutal. For comparison purposes, active cases/million in the US are around 11,000 as of November 19.

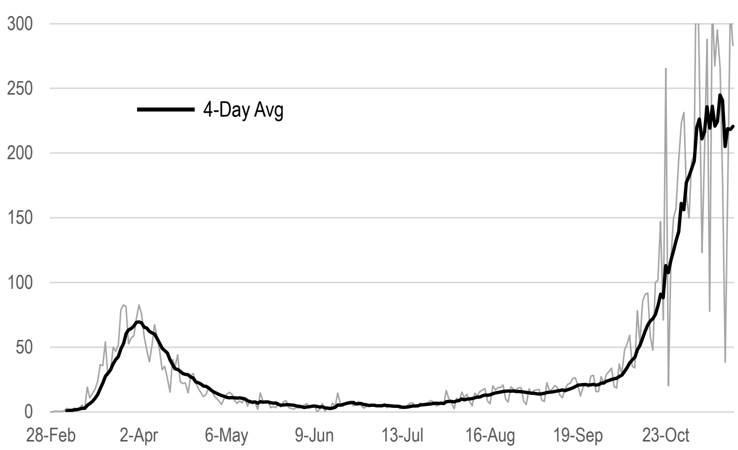
Estimate of Active Cases/ Million
July 6 to November 18
Daily



Source: Bloomberg, FHN Financial

Each country has seen a different trajectory to approach current plateaus. Germany's arc of new cases per day (per million population) is typical of most countries except Spain, that first led the fall surge in Europe.

Germany
Average Cases/Million per Day
4-Day Average
March 1 to November 17



Source: Bloomberg, FHN Financial

Economic Weekly highlights the cost of modified lockdowns as EU gross domestic product is widely expected to drop in the fourth quarter. Official data are lagging since the health mandates took effect, but real time data started declining in the second week of October.

Summary

The pandemic story has three parts:

- Renewed outbreaks beyond all but the most pessimistic forecasts. Previously, pessimistic forecasts did not come to pass. This time, they were spot on.
- The vaccine outlook that leaves financial markets and government officials optimistic about "retiring" the virus by the middle of next year from the top of the headlines.
- The difficult politics around managing all phases of Covid-19: testing, lockdowns, federal vs state control, dueling experts, and how to protect the economy from the worst impacts. In Europe this week, for instance, two countries have said they will veto the long-term budget approval, an approval necessary to unlock the pandemic stimulus approved in July.

Investors have become accustomed to focusing on the second two items to the exclusion of the level of cases. Yet, the overwhelming presence of the virus has the potential to change the timing impact of vaccines due to the long roll out contemplated on those currently near pipeline entry. And, investors have been persistently over optimistic that political divisions will give way to stimulus.

Meanwhile, the clock ticks on small businesses and workers that set their "survival" calendars to early 2021. They must look now for an extension.

Translating 10-Yr Rates into "Forecasts" for 2021

There is still daily news and volatility for interest rates, but this week has indicated a much clearer translation of how bond investors and traders are pricing different outcomes and risks for the first half of next year. We can identify six separate categories, distilling the information from market flows the last six weeks.

The list starts with the four that have been gained the most sponsorship. It is based on the 10-yr UST as the trading anchor:

- .95% to 1.00% = By the second quarter, all the good things needed for economic recovery will be real or easily visible. If not then, the outlook will be clear by the middle of third quarter.
- .85% = A lot of good things are already in process, but success isn't guaranteed, and the timing is still an open question.
- .75% = The economy will get through its current challenges but it's too soon to abandon Treasuries.
- .70% = The Fed isn't going to normalize rates before 2024. The curve will be held in check by dovish monetary policy.

On the outside:

- Above 1.0% = Inflation is going to catch fire soon, scaring off investors worried the Fed may not get it in check quickly enough. The other thought here goes to a surprising amount of stimulus from Congress next year.
- .60% = Serious lockdowns extend into January, and Washington runs into serious roadblocks in implementing a new agenda.

Obviously, that's a compressed analysis, and those observations also draw on critical information from global asset prices as well as the yield on 5-yr and 30-yr UST. It also draws heavily on the fact US yields remain significantly higher than anywhere else in the developed world while the US faces comparable challenges from the pandemic and eroding demographic trends.

But, after digesting a tremendous amount of conflicting information this month, ***the summary is a good way to organize and understand the wave of GDP and interest rate forecasts that our industry publishes each fall.*** It also demonstrates our view the value of daily or weekly moves that approach either end of the range are unlikely to uncoil rate momentum to a big sell-off or a big rally. Finally, it's a helpful framework to track changing views as the December FOMC meeting comes into view.

Capsules provided already by larger firms lean strongly to the .95% outlook. After days of active trading, the 10-yr closer to .85% indicates that the stated "consensus" forecast for consumption growth next year of 5% doesn't represent the market forecast yet.

UST flows move to the center

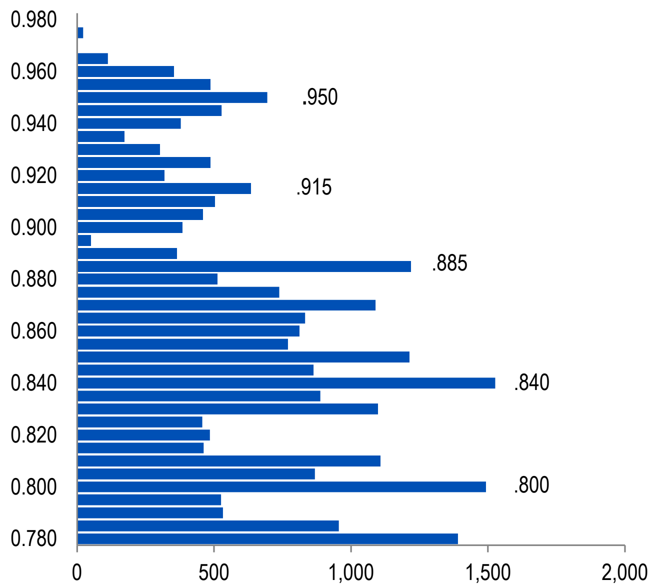
The only selling action this week was on early Monday when Moderna said its Covid-19 vaccine was 94.5% in phase 3 trials. The news failed to launch the continued ramp to higher rates seen the previous Monday when Pfizer and its partner indicated similar results. One reason for the subdued reaction was the escalating case load in the US as outlined on page 2.

Through most of October and early November, volatility and rapid trading skipped over most of the "intermediate" territory for Treasury yields, trading in 5bp jumps. The last seven trading sessions have filled in most of those gaps. Where .885% was once the dominant pivot for 10-yr UST yields, they have ratcheted lower to .840%.

10-Yr UST Yields (Above .77%)

With Volume Totals from Corresponding Futures Trading

Since September 30, 2020



Source: CBOT, FHN Financial

Note: Yield/Volume measured in 30-minute intervals

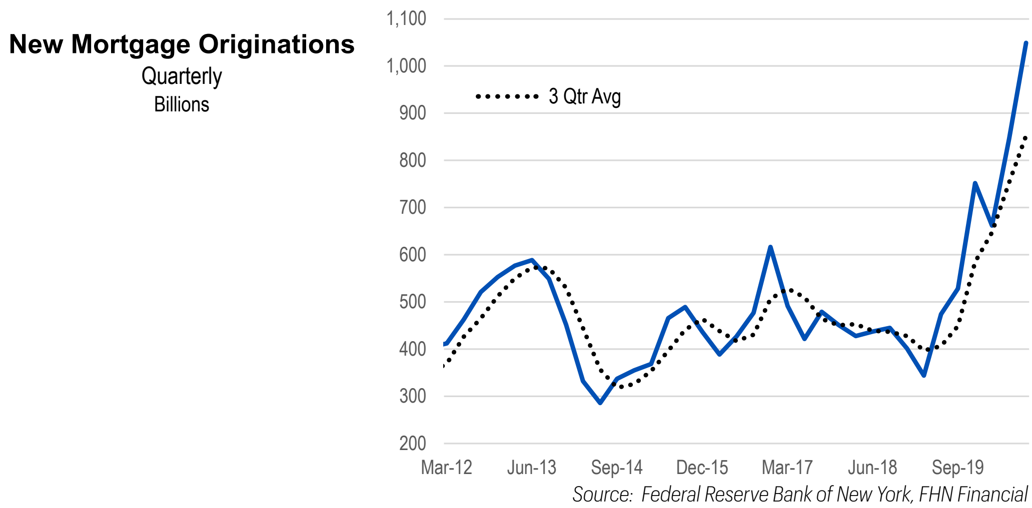
Many Borrowers on Sidelines in Q3 Debt Rebound

Every macro analysis requires pandemic-specific breakdowns. Based on Q3 household borrowing data, 2020 headlines should include:

- The consumer spending rebounding in the third quarter was not supported by increased "consumption" debt such as auto loans and credit cards.
- Delinquencies have been manageable due to official and unofficial forbearance programs, CARES Act direct support, and a shift toward conservative usage on lines of credit, etc.
- Not all households are created equal this year. Overall leverage in the system recovered last quarter but only because mortgage originations soared among borrowers with high credit scores.

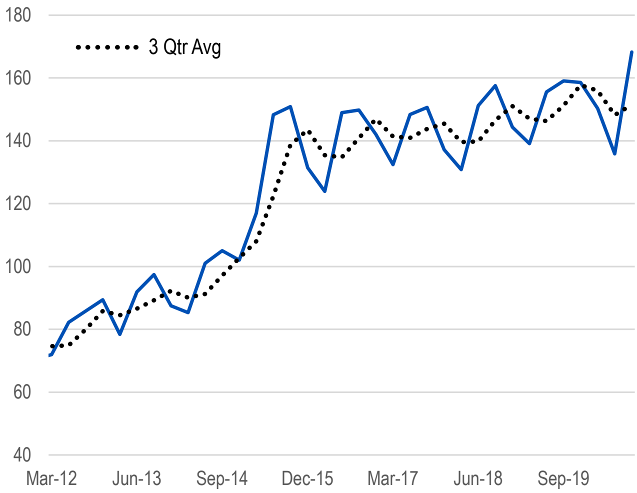
The last bullet is important as further growth beyond employment recovery in 2021 will be more stable if currently strong sectors remain strong. So far, housing's renewed 2020 zip appears a combination of pent-up demand, migration from major cities, and "strike while the iron is hot" while other investment/spending opportunities are limited.

In other words, does this chart of new loan originations have momentum or is it too hot to last? Quarterly originations haven't exceeded $1 trillion since 2003.



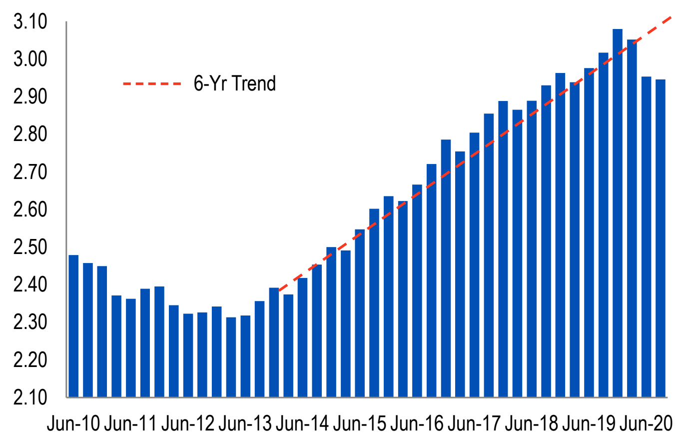
By contrast, look auto loan originations – with autos also enjoying a mini-boom thanks to the pandemic – and then the lack of growth in the mainstay sectors that have driven consumer debt the previous five years.

New Auto Loans
Quarterly
Millions



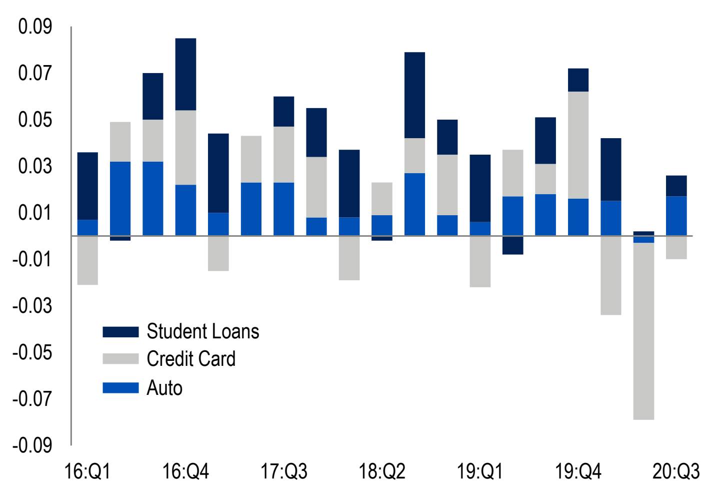
Source: Federal Reserve Bank of New York, FHN Financial

Consumer Debt, Excluding First Mortgages and Student Loans
June 2010 to Present
Quarterly (Trillions)



Source: Federal Reserve Bank of New York

Quarterly Growth in Selected Consumer Debt Sectors
2016-Q3 2020
Not Seasonally Adjusted
(Trillions)

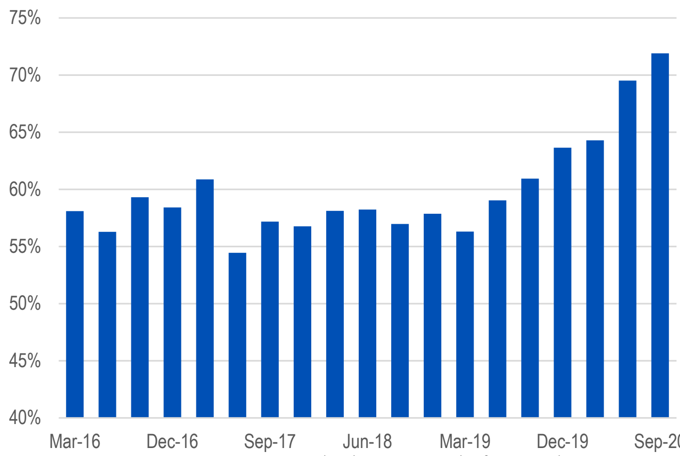


Source: Federal Reserve Bank of New York

Housing is an upper income/wealth phenomenon

During housing's go-go period almost 20 years ago, originations were spread evenly across household credit scores. In the post -financial crisis period starting in 2010, the baseline percentage in the top FICO bracket – more than 760 – has been just above 40%. That's the starting point on this graph which shows a large shift toward the top in the most recent two periods.

Percentage of Mortgage Originations in Upper FICO Score Ranges
Based on Dollar Amounts Originated, Quarterly
2016 to Q3 2020



Source: Federal Reserve Bank of New York, FHN Financial

As sluggish originations moved from the $450 billion per quarter level, the top quintile generated 80% of the overall dollar increase. ***The question for housing investment and home improvement expenditures this year is how much of this year's bonanza may pull forward economic activity from the next two years. Watching mortgage origination trends will be invaluable in trending those developments.***

Lender forbearance supports pandemic economy

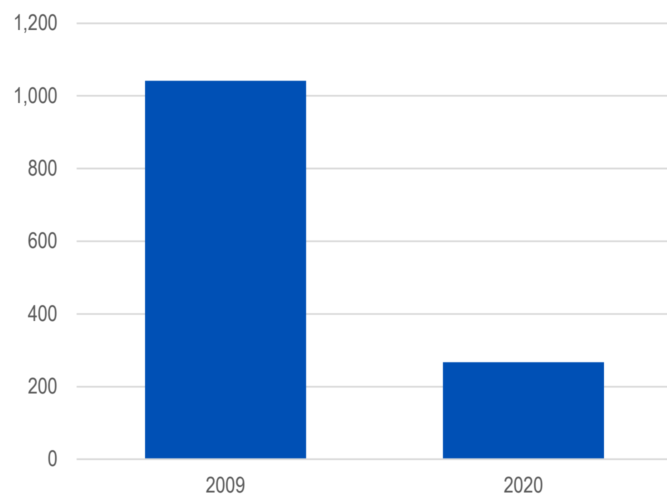
The CARES Act was so large and applied so quickly, it would be easy to forget the combination of federally sponsored loan forbearance it provides and the voluntary programs offered by lenders. The reasons to offer immediate and widespread forbearance: i) the pandemic was largely viewed as a limited-time event that implied a recovery once it was over, allowing the resumption of payments; and ii) avoid a buildup of defaults that would hang over workers in vulnerable sectors.

An analysis this week by the Federal Reserve Bank of New York[1] found:

- Millions of borrowers used the programs in April and May, with the total peaking in June.
- Away from housing, where the programs were mandatory for federally insured loans and designed to last for at least six months, borrowers started leaving forbearance as the first wave of job losses quickly reversed in the summer.
- Exits from auto loan payment suspension programs maxed in August. From the 8 million estimated loans in forbearance in June, the number fell to about 5 million in September (the most recent month available).
- Mortgage forbearance has been more widely reported, with just less than 4 million loans in various programs, down about 20% from the May peak.

As for impact, compare the number of new bankruptcies the previous quarters of 2020 versus the number in the middle two quarters of 2009. A large part of the difference reflects the over-indebted consumer in the financial crisis, but bankruptcy filings' decline since 2019 also supports the value of forbearance this year:

New Consumer Bankruptcy Filings: 2009 and 2020
Quarters 2-3 of Each Year
(Thousands)



Source: Federal Reserve Bank of New York, FHN Financial

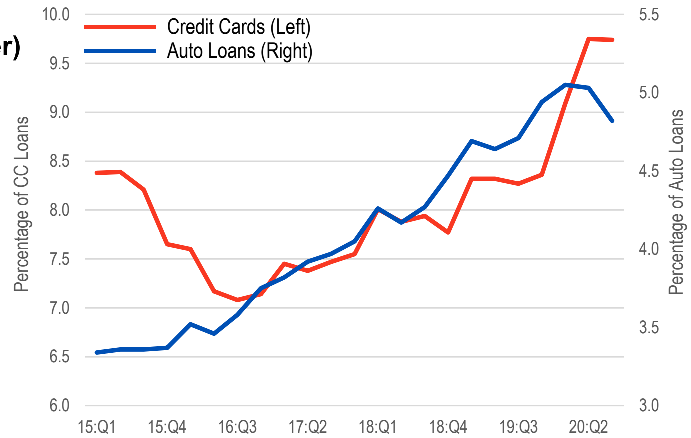
[1] Andrew F. Haughwout, Donghoon Lee, Joelle Scally, and Wilbert van der Klaauw, "Following Borrowers through Forbearance," Federal Reserve Bank of New York Liberty Street Economics, November 17, 2020, https://libertystreeteconomics.newyorkfed.org/2020/11/following-borrowers-through-forbearance.html.

Compared with auto, credit card, and other non-housing debt of about $3 trillion, US student loan debt is more than $1.5 trillion. Delinquencies among student loans – always the highest of any individual category – have fallen 50% thanks to forbearance. For other types of loans, it appears forbearance has prevented delinquencies from climbing rather than reducing them – as intended when the programs were implemented in the spring.

Percentage of Loans (Number) Seriously Delinquent

2015 to Q3 2020

Quarterly



Source: Federal Reserve Bank of New York, FHN Financial

The researchers at the NY Fed that compiled the analysis added [edited for content and brevity]:

> We find common traits among individuals who enrolled in mortgage and auto loan forbearance in the wake of the crisis. First, forborne borrowers were more likely to have lower credit scores in March – in fact, the average credit scores of these borrowers was about 40 points lower than non-forbearance participants. For both auto loans and mortgages, troubled borrowers were far more likely to opt in to forbearances, as evidenced by the higher delinquency rates of participants three months prior to the first forbearance month.

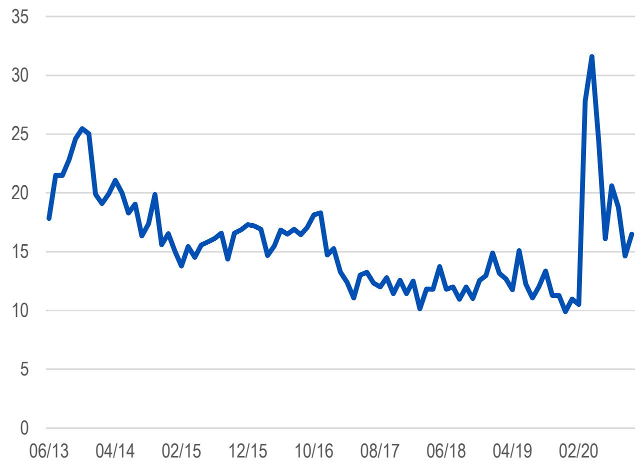
Household expectations still scarred but improving

Separately from its household debt analysis, the Federal Reserve Bank of New York surveys household financial thoughts and attitudes about current conditions and a look 12 months out. Each key survey item has improved dramatically from the worst of the spring, but has not return to the healthy feelings early in the first quarter.

Expectations of households' financial situation being worse in one year has declined from 31% in March to 16.5% in October. The baseline for 2018-2019 was the low teens; prior to that it was around 18%.

Household Finances Worse in One Year

Consumer Survey
2013 to October 2020
Monthly

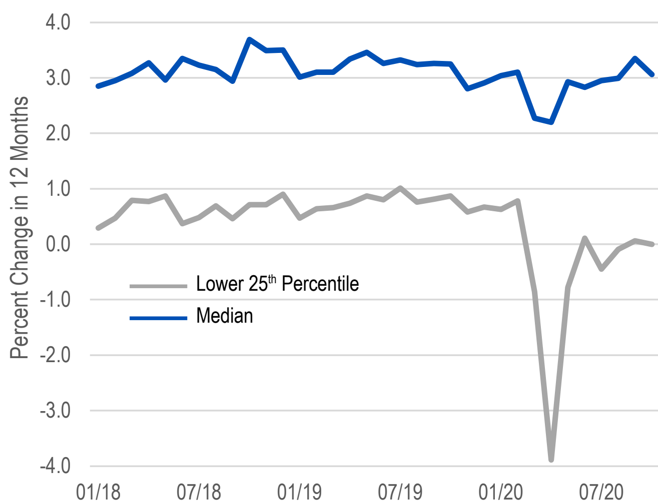


Source: Federal Reserve Bank of New York

The spending plans among a large segment of the survey are not as positive. Although the lower quartile no longer expects to spend less, the October reading was to spend 0% more over the next 12 months. That's an unhealthy look forward, particularly if other households are indeed pulling 2021 expenditures into this year.

Expected Spending Increase in Next 12 Months

Consumer Survey
2013 to October 2020
Monthly



Source: Federal Reserve Bank of New York