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# Wells Fargo Economics *Monthly Macro Manual*

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*Your guide to the data and events that will shape the economic outlook and drive financial markets in the month ahead.*

September 10, 2020

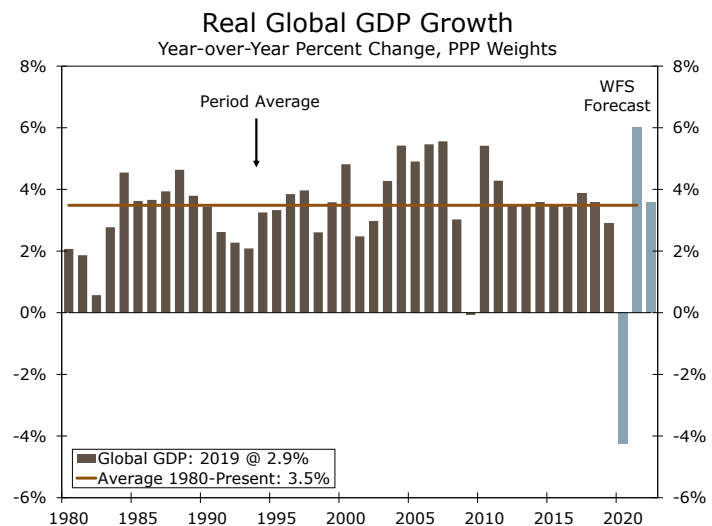
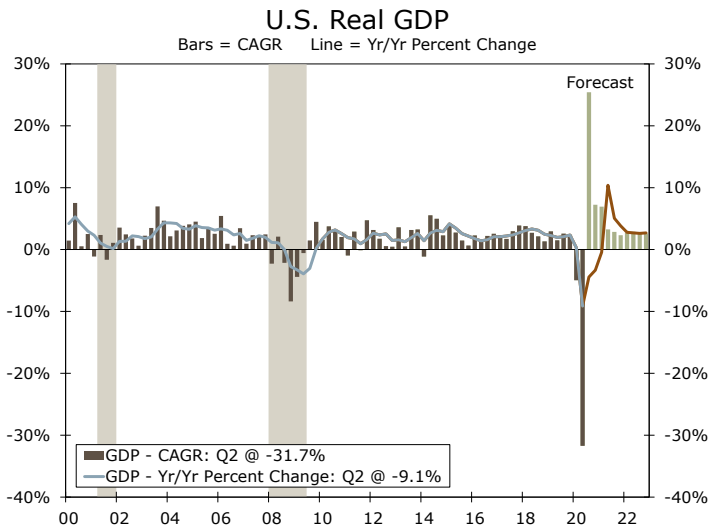
Together we'll go far



# Key Takeaways

## Developments since our August Monthly Economic Outlook

- **The Q3 rebound in U.S. GDP growth looks to be even stronger than we estimated last month.** The upward revision to our growth forecast was mostly concentrated in consumer spending and residential investment, where an improving jobs market, record personal savings and low interest rates are supporting household spending.
- **We have downwardly revised our forecast for the U.S. unemployment rate.** We expect it to average 7.8% in Q4-2020 and 5.9% in Q4-2021. Our initial forecast for Q4-2022 is for an average unemployment rate of 4.7%.
- **Despite a relatively robust labor market rebound, we do not expect inflation, as measured by the core PCE deflator, to run above 2% on a sustained basis.** As a result, our initial forecast for 2022 assumes no Fed funds rate hikes through at least the end of that year.
- Our year-end targets for the 10-year Treasury yield are 0.85% for 2020, 1.30% for 2021 and 1.50% for 2022.
- **Our global growth forecast for 2020 has dipped some, but was largely offset by upward revisions to 2021.** Our initial forecast for global growth in 2022 is similar in theme to our U.S. forecast: above-trend growth that continues to chip away at the output gap we still expect to exist in 2022.



Source: U.S. Department of Commerce, International Monetary Fund and Wells Fargo Securities

# Monthly Macro Calendar: September 7-October 2

Monday	Tuesday	Wednesday	Thursday	Friday
<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Labor Day Observed</b> [U.S. Markets Closed]	<b>NFIB Small Business Optimism</b> August 100.2 <b>China Consumer Price Index (YoY)</b> July 2.7%	<b>JOLTS Job Openings</b> July 6,618K	<b>PPI Final Demand (YoY)</b> July -0.4%; August -0.3% (W) <b>ECB Rate Decision (Deposit Facility Rate)</b> Previous -0.50%, September -0.50% (W) <b>WFS 2022 Global Economic Outlook Call</b> See below for details	<b>Consumer Price Index (YoY)</b> July 1.0%; August 1.2% (W) <b>Monthly Budget Statement</b> July -\$63.0B; August -\$198B (W)
<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
	<b>Industrial Production (MoM)</b> July 3.0%	<b>FOMC Rate Decision (Upper Bound)</b> Previous 0.25%; September 0.25% (W) <b>Powell* (Fed Chair)</b> Holds Post-FOMC Meeting Press Conference <b>Retail Sales (MoM)</b> July 1.2%	<b>Housing Starts</b> July 1,496K <b>BoE Bank Rate</b> Previous 0.10% <b>Japan CPI (YoY)</b> July 0.3%	<b>Bullard (St. Louis Fed)</b> Discusses the COVID Recovery Challenge
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>
	<b>Existing Home Sales (SAAR)</b> July 5.86M <b>Evans (Chicago Fed)</b> Discusses the U.S. Economy & Monetary Policy		<b>New Home Sales (SAAR)</b> Jul 901K <b>Bank of Mexico Overnight Rate</b> Previous 4.50%	<b>Durable Goods Orders (MoM)</b> Jul 11.4%
<b>28</b>	<b>29</b>	<b>30</b>	<b>1</b>	<b>2</b>
	<b>Consumer Confidence</b> August 84.8 <b>First Presidential Debate</b>	<b>75th Session of the UN General Assembly</b> UN Summit on Biodiversity, New York <b>Federal Government Funding Expires</b>	<b>Personal Income &amp; Spending (MoM)</b> July 0.4% & 1.9% <b>ISM Manufacturing Index</b> August 56.0 <b>RBI Repurchase Rate</b> Previous 4.00%	<b>Nonfarm Payrolls (Monthly Change)</b> August 1,371K

Note: (W) = Wells Fargo Estimate, (C) = Consensus Estimate, \* = voting FOMC member in 2020, Red = Market Moving Releases

**WFS Global Economic Outlook Through 2022 Webcast: September 10, 2020, at 11:00am ET. [Register Here.](#)**

Source: Bloomberg LP and Wells Fargo Securities

# U.S. Growth Outlook

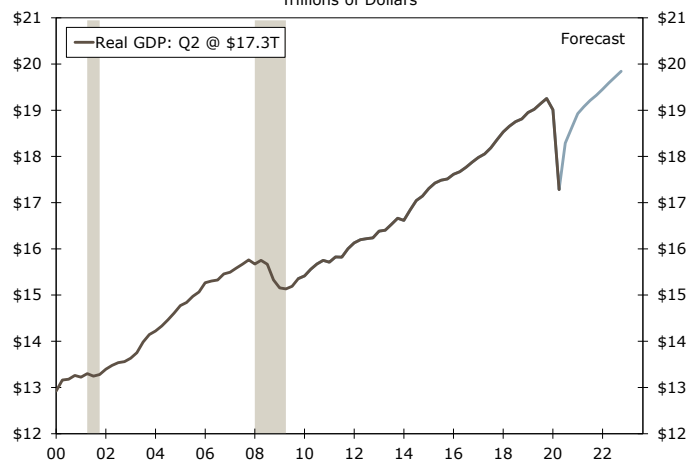
Real GDP growth forecast for Q3-2020: 25.4% (seasonally adjusted annualized rate)

- Change since last forecast: **+3.6 percentage points**
- **The Q3 rebound now looks to be even stronger than we estimated last month.** Our upward revision was mostly concentrated in consumer spending and residential investment, where an improving jobs market, record personal savings and low interest rates continue to support household spending.

Real GDP growth forecast for full-year 2020: -4.2% (year-over-year percent change)

- Change since last forecast: **+0.7 percentage points**
- **We have upgraded our full-year 2020 and 2021 forecasts. A stronger consumer and housing outlook have boosted the level of real GDP moderately over our forecast horizon.** We still forecast the rebound in business fixed investment to lag the overall recovery given the large degree of both virus- and election-related uncertainty. Government spending will also likely be a drag on growth due to state and local austerity.
- **Our initial forecast for 2022 projects above trend growth of 2.7%.** Above trend growth should continue to chip away at the slack we believe will still be in the economy at that time, but **an output gap is still likely to persist through 2022 as the economy remains smaller than it would have been in the absence of the pandemic.**

U.S. Real GDP  
Trillions of Dollars



Source: U.S. Department of Commerce and Wells Fargo Securities

## Key Themes and Upside/Downside Scenarios

- *Upside scenario:* COVID-19 outbreaks remain in check and medical advancements occur faster than expected. The U.S. economy accelerates amid an end of the pandemic and a highly stimulative economic policy backdrop.
- *Downside scenario:* A “second wave” hits much of the northern hemisphere in the fall and winter months, halting the economic rebound. Monetary and fiscal policy responses are not as effective/forthcoming the second time around, and a double-dip recession occurs.

## Inflation Forecast

- We did not make any major changes to our inflation forecast. We still look for the year-over-year rate of PCE inflation to remain below 2% for quite some time.

## Labor Market Forecast

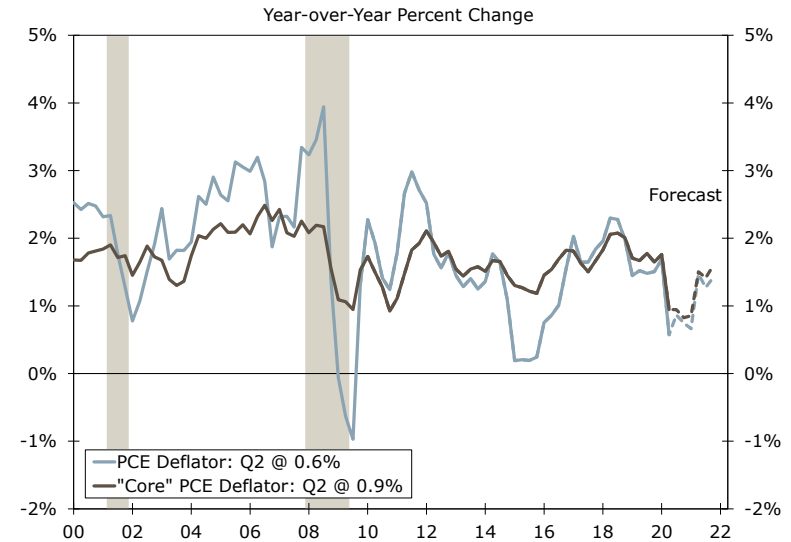
- The unemployment rate tumbled to 8.4% in August and employers added another 1.37 million jobs. This outturn led us to downwardly revise our unemployment forecast. We now forecast the unemployment rate to be a bit below 6% at the end of 2021 (previously a bit above 6%) and under 5% by the end of 2022.
- Even with the recent improvement, less than half of the jobs lost since February have been recovered. We believe nonfarm payrolls growth will continue to slow in the months ahead.

## Fed Funds Outlook

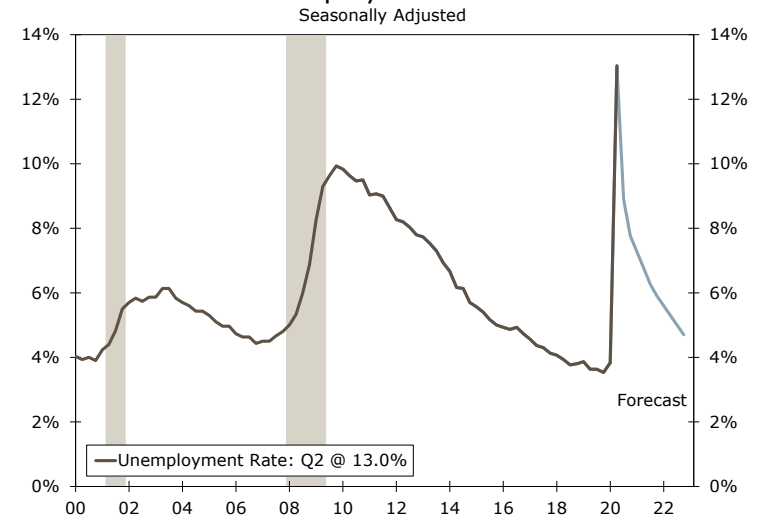
### Fed Funds Forecast for 2020 & 2021: No Change

- Our previous forecast went through the end of 2021, and we expected the FOMC to keep the fed funds rate unchanged over that period.
- With the addition of 2022, we still do not have a fed funds rate hike in our forecast horizon. With the Fed's new average inflation target regime, our baseline forecast for inflation leads us to believe the FOMC will not raise rates until at least 2023.
- See *Topic of the Month* on slide 10 for an overview of average inflation targeting.

## PCE Deflator & "Core" PCE Deflator



## Unemployment Rate



Source: U.S. Department of Commerce, U.S. Department of Labor and Wells Fargo Securities

## Wells Fargo Securities U.S. Interest Rate Forecast

	Actual								Forecast							
	2019				2020				2021				2022			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Quarter End Interest Rates																
Federal Funds Target Rate	2.50	2.50	2.00	1.75	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
SOFR <sup>1</sup>	2.43	2.43	2.28	1.67	1.23	0.05	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
3 Month LIBOR	2.60	2.32	2.09	1.91	1.45	0.30	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Prime Rate	5.50	5.50	5.00	4.75	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Conventional Mortgage Rate	4.28	3.80	3.61	3.72	3.45	3.16	2.85	2.80	2.80	2.85	2.90	3.00	3.05	3.10	3.15	3.20
3 Month Bill	2.40	2.12	1.88	1.55	0.11	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
6 Month Bill	2.44	2.09	1.83	1.60	0.15	0.18	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
1 Year Bill	2.40	1.92	1.75	1.59	0.17	0.16	0.15	0.15	0.15	0.15	0.20	0.20	0.20	0.20	0.25	0.25
2 Year Note	2.27	1.75	1.63	1.58	0.23	0.16	0.15	0.15	0.20	0.20	0.20	0.25	0.25	0.30	0.35	0.45
5 Year Note	2.23	1.76	1.55	1.69	0.37	0.29	0.25	0.30	0.35	0.40	0.50	0.60	0.65	0.70	0.80	0.90
10 Year Note	2.41	2.00	1.68	1.92	0.70	0.66	0.70	0.85	1.00	1.10	1.20	1.30	1.35	1.40	1.45	1.50
30 Year Bond	2.81	2.52	2.12	2.39	1.35	1.41	1.40	1.60	1.75	1.90	2.05	2.15	2.20	2.20	2.25	2.30

Forecast as of: September 10, 2020

<sup>1</sup> Quarterly Average of Daily Close

Source: Federal Reserve Board and Wells Fargo Securities

## What Are We Watching in the Month Ahead?

- What will it take to get higher Treasury yields?
  - U.S. equity markets have recouped much of their losses, **but at roughly 70 bps, the 10-year Treasury yield is basically unchanged since the end of March.** What will it take to see higher yields?
  - **First, markets need to price in some rate hikes eventually.**
    - The OIS market implies no fed funds hikes for most of the 2020s. If markets are convinced the fed funds rate will be near zero for most of the decade, to some extent this caps yields even at the back end of the curve.
  - **Second, markets need to believe that higher inflation is on the way.**
    - While inflation expectations as measured by 10-year breakevens have recovered most of their decline since February, they remain stuck around 1.7% and have actually declined slightly since the Fed announced its move to average inflation targeting.
  - **Third, markets need less uncertainty related to the U.S. election and the fall/winter COVID situation.**
    - Yes, the economic data have been strong, but fears remain that this progress will be reversed if an acceleration in cases/deaths occurs when the weather turns. The presidential election adds additional uncertainty for investors.

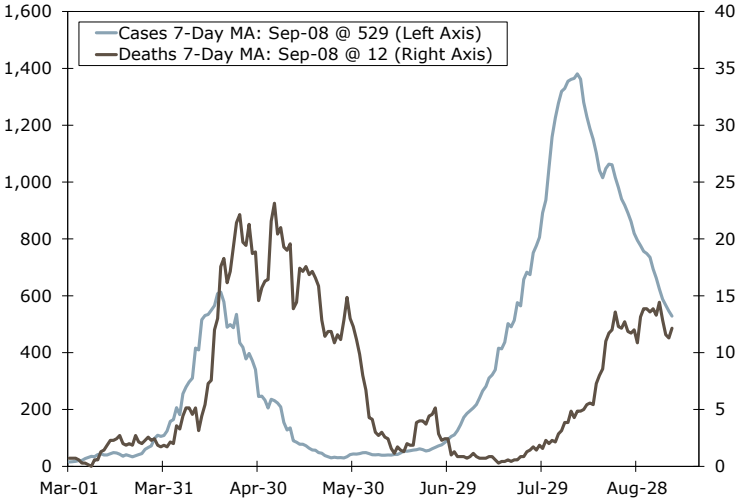
## COVID-19 Mostly Under Control in Japan

- Although Japan appears to have more successfully contained the spread of COVID-19 compared to many other developed countries, Japan's economy still struggled mightily in the first half of 2020. **Real GDP was down 9.9% year-over-year in Q2, a bit more than the 9.1% contraction in the U.S., but still less than the 14.7% collapse in the Eurozone.**
- Higher frequency economic data suggest a rebound began to take hold towards the end of the second quarter. **Although the monetary policy response has been more modest, the fiscal response in Japan has been among the biggest in the G20.**

## Can Japan's Economy Sustain the Recovery?

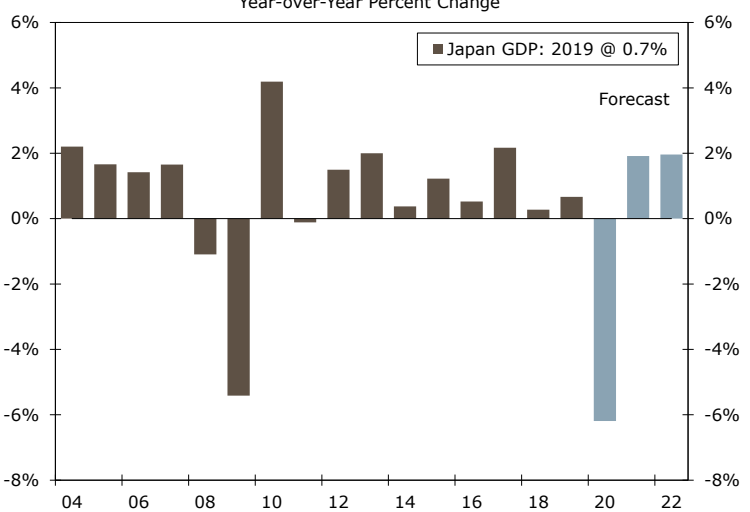
- In the near-term, we believe this fiscal firepower can spur a boost to economic growth. **But over the medium- to longer-run, the recovery will need to be more self-sustaining, something the Japanese economy has struggled to achieve in the past, particularly if external demand is weak.**
- Our forecast for the Japanese economy has real GDP still roughly 4% lower at the end of 2021 than it was at the pre-pandemic peak.** While we believe the risks to this forecast are skewed to the upside, the sizable hole signals just how long we think it will take to close the output gap in Japan.

Japan Covid-19 New Cases & Deaths



Source: Bloomberg LP and Wells Fargo Securities

Japan GDP Growth



## Wells Fargo Central Bank Policy Forecasts

Central Bank	Current Policy Rate	Last Major Policy Change	WF Next Forecasted Policy Change
United States (FOMC)	0.25%	August 2020 <i>Announced it will adopt a flexible form of "average inflation targeting" such that it will aim to "achieve inflation that averages 2% over time"</i>	No change through Q4-2021
Eurozone (ECB)	-0.50% (Deposit Rate)	June 2020 <i>Expanded its Pandemic Emergency Purchase Program (PEPP) purchases by €600B, extended the horizon for PEPP purchases to June 2021 and provided some guidance on PEPP reinvestments</i>	No change through Q4-2021
United Kingdom (BoE)	0.10%	June 2020 <i>Announced a £100B increase in its asset purchase target to £745B</i>	Raise its asset purchase target by a further £100B in Q4-2020
Japan (BoJ)	-0.10%	April 2020 <i>Raised its purchase target for corporate bonds and commercial paper to ¥20T</i>	No change through Q4-2021
Canada (BoC)	0.25%	April 2020 <i>Announced two new asset purchases programs, a provincial bond purchase program of C\$50B and corporate bond purchase program of C\$10B</i>	No change through Q4-2021

Forecast as of: September 10, 2020

Source: Bloomberg LP and Wells Fargo Securities

## What Are We Watching in the Month Ahead?

### European Central Bank

- **We do not anticipate any further easing from the ECB**, though we see the risks as skewed towards some type of more accommodative policy.

### Bank of Japan

- **We do not anticipate any further easing from the BoJ**, though we see the risks as skewed towards some type of more accommodative policy.

### Bank of England

- **We think the BoE is done cutting its policy rate, but we look for another £100 billion increase in asset purchases in Q4-2020.**

### Bank of Canada

- **We do not anticipate any further easing from the BoC.**

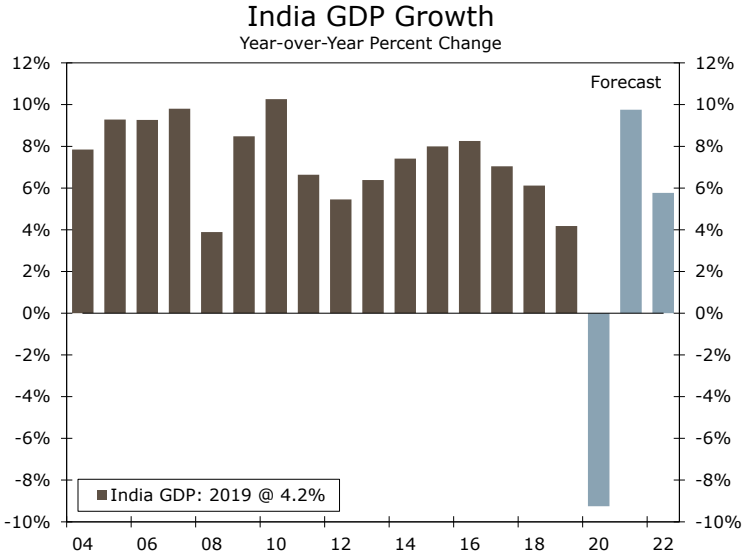


## India's Economy Crushed in Q2

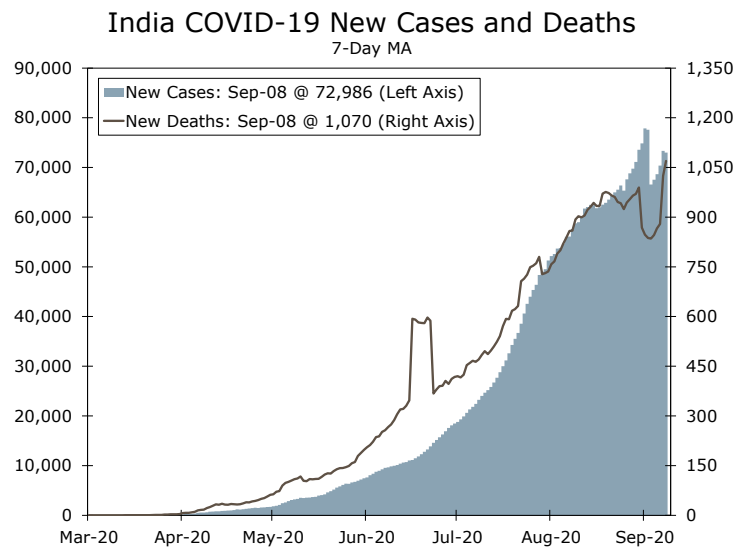
- Data released for the Indian economy showed that real GDP got crushed in the second quarter, even compared to many other hard-hit countries. **Real GDP contracted 23.9% year-over-year**, led by a 47.1% decline in gross fixed capital formation and a 26.7% contraction in private consumption.
- To put that 23.9% decline into perspective, consider that in Italy and the United Kingdom, two of the hardest-hit countries in the world, Q2 real GDP growth was -17.7% and -21.7%, respectively. We now look for Indian real GDP growth to register -9.3% in 2020, more than double the U.S. contraction.

## Stimulus Woes, Virus' Spread Generate Drag

- India's fiscal support has been on the light side compared to other major economies, and the Reserve Bank of India refrained from additional rate cuts in August due to above-target inflation. **The (relatively) light fiscal and monetary response to the pandemic has played a key role in our downgrade of the Indian economic outlook.**
- The spread of COVID-19 has picked up as lockdown measures have eased, with **new cases and deaths in India both near all-time highs at present.** Some of this may be due to better testing and reporting, but **it does not appear the virus is firmly under control.**



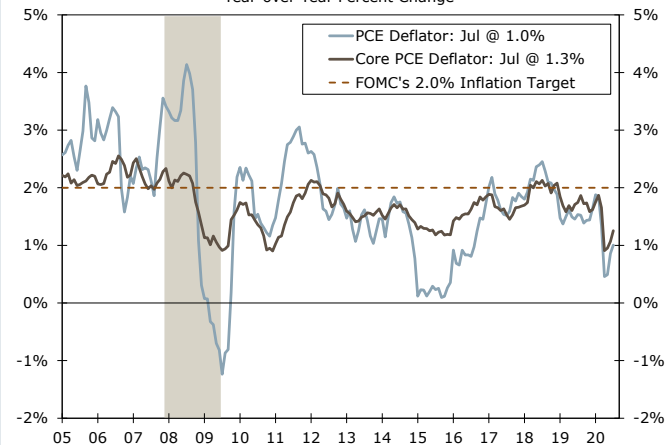
Source: Bloomberg LP and Wells Fargo Securities



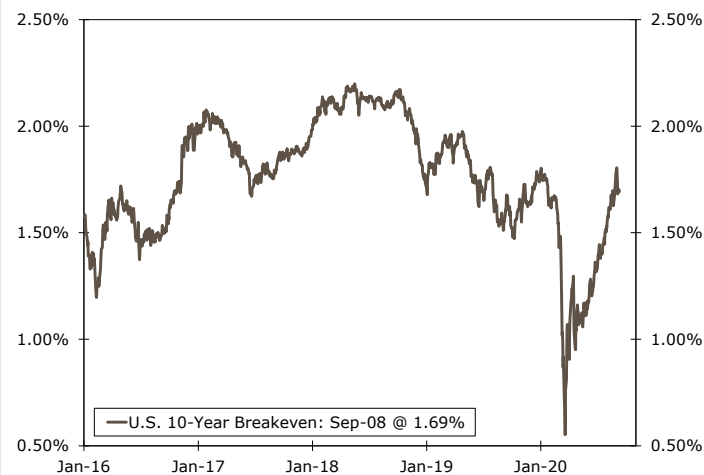
## Federal Reserve Officially Adopts Average Inflation Targeting

- During a speech for the Kansas City Fed's annual Jackson Hole Symposium on August 27, **Federal Reserve Chair Jerome Powell announced the FOMC would adopt a flexible average inflation targeting regime.**
- **Going forward, the committee will aim to “achieve inflation that averages 2% over time.”** Powell also revealed that the FOMC will take a more dovish view of labor market developments, stating that **monetary decisions will be informed by “assessments of the shortfalls of employment from its maximum level” rather than “deviations from its maximum level.”**
- **Average inflation targeting signals that the Fed will tolerate inflation moderately above 2% to make up for past undershoots,** resulting in lower real interest rates and more accommodative monetary policy, all else equal.
- While the timing of this announcement was moderately surprising, the move itself does not come as a huge shock. **The Fed has been reviewing how best to achieve its dual mandate for a year-and-a-half, and FOMC watchers have come to realize that average inflation targeting was a prime candidate for adoption.**
- Furthermore, in practice the move is less monumental than meets the eye: for more than three years, the FOMC has stressed the “symmetric” nature of its 2% target in its statements. **To a large extent, we view this move to average inflation targeting as the codification of a policy the Federal Reserve had already de facto adopted.**
- For further reading, please see our [recent reports](#).

PCE Deflator vs. Core PCE Deflator  
Year-over-Year Percent Change



U.S. Treasury 10-Year Breakeven



Source: U.S. Department of Commerce, Bloomberg LP and Wells Fargo Securities

## Wells Fargo Securities U.S. Economic Forecast

	Actual								Forecast								Actual		Forecast	
	2019				2020				2021				2022				2019	2020	2021	2022
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product (a)	2.9	1.5	2.6	2.4	-5.0	-31.7	25.4	7.2	6.9	3.3	2.9	2.3	2.7	2.9	2.6	2.6	2.2	-4.2	4.6	2.7
Personal Consumption	1.8	3.7	2.7	1.6	-6.9	-34.1	39.4	5.9	5.1	3.6	3.2	2.3	2.3	2.6	2.6	2.5	2.4	-4.1	5.1	2.6
Business Fixed Investment	4.2	0.0	1.9	-0.3	-6.7	-26.0	5.3	4.6	4.8	4.0	4.8	4.8	5.3	5.2	5.2	4.9	2.9	-6.0	2.4	5.0
Equipment	2.0	-3.8	-1.7	-1.7	-15.2	-35.9	24.4	8.0	6.5	5.5	5.9	6.9	7.1	6.4	6.1	5.8	2.1	-9.5	5.2	6.4
Intellectual Property Products	4.5	4.1	5.3	4.6	2.4	-7.7	-0.8	0.7	4.2	4.8	6.8	6.3	6.2	5.5	5.6	5.1	6.4	0.8	2.7	5.9
Structures	8.2	1.6	3.6	-5.3	-3.7	-33.4	-19.0	4.5	1.5	-1.5	-2.2	-3.4	-1.4	1.3	1.9	2.1	-0.6	-10.6	-4.8	-0.8
Residential Investment	-1.7	-2.1	4.6	5.8	19.0	-37.9	44.0	12.0	7.0	7.0	7.0	6.5	6.5	7.0	6.8	6.5	-1.7	2.3	8.1	6.7
Government Purchases	2.5	5.0	2.1	2.4	1.3	2.8	-3.0	-1.7	-1.2	-0.8	-0.4	0.2	0.2	0.5	0.5	0.8	2.3	1.4	-1.0	0.2
Net Exports	-907.4	-951.4	-950.2	-861.5	-788.0	-760.9	-913.7	-961.4	-981.8	-967.5	-965.9	-965.4	-965.9	-969.9	-981.7	-993.7	-917.6	-856.0	-970.1	-977.8
Pct. Point Contribution to GDP	0.6	-0.8	0.0	1.5	1.1	0.9	-3.5	-1.0	-0.4	0.3	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.2	0.3	-0.6	0.0
Inventory Change	101.7	49.4	44.0	-1.1	-80.9	-286.4	-200.0	-50.0	90.0	80.0	70.0	60.0	65.0	70.0	70.0	70.0	48.5	-154.3	75.0	68.8
Pct. Point Contribution to GDP	0.2	-1.0	-0.1	-0.8	-1.3	-3.5	2.0	3.3	3.0	-0.2	-0.2	-0.2	0.1	0.1	0.0	0.0	0.0	-1.1	1.3	0.0
Nominal GDP (a)	4.0	4.1	4.0	3.9	-3.4	-33.3	29.8	8.2	8.6	4.9	4.6	4.1	4.5	4.7	4.5	4.4	4.0	-3.1	6.1	4.5
Real Final Sales	2.7	2.5	2.7	3.2	-3.6	-28.5	24.1	3.8	3.8	3.5	3.1	2.5	2.6	2.8	2.6	2.6	2.2	-3.1	3.4	2.7
Retail Sales (b)	2.7	3.4	3.9	4.0	1.2	-7.7	3.7	3.8	6.4	15.2	1.8	1.6	1.9	2.2	2.3	2.7	3.5	0.3	5.9	2.3
Inflation Indicators (b)																				
PCE Deflator	1.4	1.5	1.5	1.5	1.7	0.6	1.1	0.9	1.0	1.8	1.4	1.6	1.7	1.7	1.8	1.8	1.5	1.1	1.5	1.7
"Core" PCE Deflator	1.7	1.7	1.8	1.6	1.8	1.0	1.3	1.2	1.2	1.8	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.3	1.5	1.7
Consumer Price Index	1.6	1.8	1.8	2.0	2.1	0.4	1.1	0.9	1.0	2.3	1.6	1.9	2.0	2.0	2.1	2.1	1.8	1.1	1.7	2.0
"Core" Consumer Price Index	2.1	2.1	2.3	2.3	2.2	1.3	1.5	1.4	1.4	2.2	1.7	1.8	1.9	1.9	1.9	2.0	2.2	1.6	1.8	1.9
Producer Price Index (Final Demand)	1.9	2.0	1.6	1.1	1.1	-0.8	-0.2	0.1	0.8	2.5	2.2	2.1	2.1	2.1	2.2	2.2	1.7	0.1	1.9	2.1
Employment Cost Index	2.8	2.7	2.8	2.7	2.8	2.7	2.0	1.8	1.5	1.8	2.0	2.1	1.5	1.8	2.0	2.1	2.7	2.3	1.8	1.8
Real Disposable Income (b)	3.2	2.1	1.8	1.6	1.4	11.9	5.5	2.7	2.8	-6.3	-0.8	1.9	1.8	2.0	2.4	2.6	2.2	5.4	-0.7	2.2
Nominal Personal Income (b)	4.7	4.1	3.5	3.5	3.2	10.4	5.5	2.7	2.8	-3.8	0.7	3.6	3.5	3.8	4.2	4.4	3.9	5.4	0.8	4.0
Industrial Production (a)	-1.9	-2.3	1.1	0.4	-6.7	-43.2	36.5	8.0	5.0	5.0	5.7	3.6	3.5	4.2	4.4	2.5	0.9	-7.5	4.8	4.1
Capacity Utilization	78.6	77.8	77.6	77.2	75.8	65.8	71.2	72.5	73.4	74.3	75.3	75.9	76.6	77.3	78.2	78.6	77.8	71.3	74.7	77.7
Corporate Profits Before Taxes (b)	-1.1	1.7	-0.5	1.3	-6.7	-20.1	-8.0	-4.0	8.0	22.0	10.0	3.0	4.0	5.0	3.0	4.0	0.3	-9.7	10.3	4.0
Corporate Profits After Taxes	-3.3	0.5	-0.3	1.3	-5.7	-19.9	-8.5	-3.4	7.3	22.2	10.0	2.9	3.8	5.0	2.9	4.1	-0.4	-9.4	10.1	3.9
Federal Budget Balance (c)	-372	-56	-237	-357	-387	-2001	-556	-495	-611	-270	-424	-404	-527	-142	-327	-336	-984	-3300	-1800	-1400
Trade Weighted Dollar Index (d)	109.8	109.7	111.0	109.8	112.7	110.3	105.8	104.8	103.8	103.0	102.5	102.0	101.8	101.5	101.3	101.3	110.1	108.4	102.8	101.4
Nonfarm Payroll Change (e)	139	159	203	210	-303	-4427	1268	617	450	328	283	270	257	243	227	213	178	-711	333	235
Unemployment Rate	3.9	3.6	3.6	3.5	3.8	13.0	8.9	7.8	7.3	6.8	6.3	5.9	5.6	5.3	5.0	4.7	3.7	8.4	6.6	5.2
Housing Starts (f)	1.20	1.26	1.29	1.43	1.48	1.06	1.37	1.28	1.32	1.32	1.32	1.32	1.33	1.34	1.34	1.35	1.29	1.30	1.32	1.34
Light Vehicle Sales (g)	16.9	17.0	17.0	16.8	15.0	11.3	15.0	14.3	14.5	14.8	15.3	15.3	15.5	15.7	15.7	15.8	17.0	13.9	15.0	15.7
Crude Oil - Brent - Front Contract (h)	63.8	67.6	61.5	61.7	51.0	34.7	43.0	44.0	46.0	46.0	46.0	50.0	53.0	55.0	57.0	55.0	63.6	43.2	47.0	55.0
Quarter-End Interest Rates (i)																				
Federal Funds Target Rate	2.50	2.50	2.00	1.75	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	2.25	0.25	0.25	0.25
Secured Overnight Financing Rate (h)	2.43	2.43	2.28	1.67	1.23	0.05	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.20	0.37	0.10	0.10
3 Month LIBOR	2.60	2.32	2.09	1.91	1.45	0.30	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	2.33	0.56	0.25	0.25
Prime Rate	5.50	5.50	5.00	4.75	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	5.25	3.25	3.25	3.25
Conventional Mortgage Rate	4.28	3.80	3.61	3.72	3.45	3.16	2.85	2.80	2.80	2.85	2.90	3.00	3.05	3.10	3.15	3.20	3.94	3.07	2.89	3.13
3 Month Bill	2.40	2.12	1.88	1.55	0.11	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	2.11	0.14	0.15	0.15
6 Month Bill	2.44	2.09	1.83	1.60	0.15	0.18	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	2.11	0.16	0.15	0.15
1 Year Bill	2.40	1.92	1.75	1.59	0.17	0.16	0.15	0.15	0.15	0.15	0.20	0.20	0.20	0.20	0.25	0.25	2.05	0.16	0.18	0.23
2 Year Note	2.27	1.75	1.63	1.58	0.23	0.16	0.15	0.15	0.20	0.20	0.20	0.25	0.25	0.30	0.35	0.45	1.97	0.17	0.21	0.34
5 Year Note	2.23	1.76	1.55	1.69	0.37	0.29	0.25	0.30	0.35	0.40	0.50	0.60	0.65	0.70	0.80	0.90	1.95	0.30	0.46	0.76
10 Year Note	2.41	2.00	1.68	1.92	0.70	0.66	0.70	0.85	1.00	1.10	1.20	1.30	1.35	1.40	1.45	1.50	2.14	0.73	1.15	1.43
30 Year Bond	2.81	2.52	2.12	2.39	1.35	1.41	1.40	1.60	1.75	1.90	2.05	2.15	2.20	2.20	2.25	2.30	2.58	1.44	1.96	2.24

Forecast as of: September 10, 2020

Notes: (a) Compound Annual Growth Rate Quarte (f) Millions of Units - Annual Data - Not Seasonally Adjusted

(b) Year-over-Year Percentage Change (g) Quarterly Data - Average Monthly SAAR; Annual Data - Actual Total Vehicles Sold

(c) Quarterly Sum - Billions USD; Annual (h) Quarterly Average of Daily Close

(d) Federal Reserve Advanced Foreign Eco (i) Annual Numbers Represent Averages

(e) Average Monthly Change

Source: U.S. Department of Commerce, U.S. Department of Labor, IHS Markit, Federal Reserve Board and Wells Fargo Securities

# U.S. Economic Forecast: Change Since August 12, 2020

## Changes to the Wells Fargo Securities U.S. Economic Forecast

	Actual				Forecast												Actual		Forecast	
	2019				2020				2021				2022				2019	2020	2021	2022
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product (a)	0.00	0.00	0.00	0.00	0.00	1.20	3.59	0.59	1.04	0.10	-0.33	-0.85	0.00	0.00	0.00	0.00	0.00	0.70	0.78	0.00
Personal Consumption	0.00	0.00	0.00	0.00	0.00	0.51	9.58	-1.85	1.18	-0.20	-0.51	-1.16	0.00	0.00	0.00	0.00	0.00	0.89	0.75	0.00
Business Fixed Investment	0.00	0.00	0.00	0.00	0.00	1.06	3.12	3.51	2.34	0.08	-0.28	-0.65	0.00	0.00	0.00	0.00	0.00	0.79	1.65	0.00
Equipment	0.00	0.00	0.00	0.00	0.00	1.75	8.29	2.68	3.00	1.45	1.41	1.52	0.00	0.00	0.00	0.00	0.00	1.37	2.86	0.00
Intellectual Property Products	0.00	0.00	0.00	0.00	0.00	-0.47	-0.14	0.24	0.54	0.00	-0.08	-0.44	0.00	0.00	0.00	0.00	0.00	-0.10	0.09	0.00
Structures	0.00	0.00	0.00	0.00	0.00	1.58	0.00	12.00	4.50	-3.00	-4.70	-6.40	0.00	0.00	0.00	0.00	0.00	1.03	1.96	0.00
Residential Investment	0.00	0.00	0.00	0.00	0.00	0.87	22.00	3.00	0.00	0.50	0.00	-0.50	0.00	0.00	0.00	0.00	0.00	2.55	2.89	0.00
Government Purchases	0.00	0.00	0.00	0.00	0.00	0.12	1.28	-2.44	0.02	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.04	-0.26	0.00
Net Exports	0.0	0.0	0.0	0.0	0.0	19.8	-56.6	-32.2	-37.5	-29.3	-27.6	-27.4	0.00	0.00	0.00	0.00	0.0	-17.24	-30.46	0.00
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.22	-1.72	0.55	-0.11	0.17	0.04	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	-0.07	0.00
Inventory Change	0.00	0.00	0.00	0.00	0.00	29.09	-50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-5.23	0.00	0.00
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.52	-1.89	1.09	-0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.02	0.00
Nominal GDP	0.00	0.00	0.00	0.00	0.00	1.06	4.63	0.46	1.70	0.38	-0.39	-0.78	0.00	0.00	0.00	0.00	0.00	0.75	1.06	0.00
Real Final Sales	0.00	0.00	0.00	0.00	0.00	0.83	5.53	-0.52	1.05	0.09	-0.33	-0.86	0.00	0.00	0.00	0.00	0.00	0.73	0.75	0.00
Retail Sales (b)	0.00	-0.01	-0.03	0.00	0.00	0.37	-0.10	-4.15	-7.13	-9.53	-8.39	-4.87	0.00	0.00	0.00	0.00	-0.01	-0.98	-7.33	0.00
Inflation Indicators (b)																				
PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.03	0.21	0.18	0.33	0.37	0.17	0.23	0.00	0.00	0.00	0.00	0.00	0.10	0.27	0.00
"Core" PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.03	0.32	0.38	0.37	0.33	0.04	-0.02	0.00	0.00	0.00	0.00	0.00	0.19	0.18	0.00
Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.34	0.46	0.56	0.31	0.22	0.00	0.00	0.00	0.00	0.00	0.17	0.39	0.00
"Core" Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.61	0.63	0.61	0.09	0.04	0.00	0.00	0.54	0.00	0.00	0.29	0.34	0.00
Producer Price Index (Final Demand)	0.00	0.00	0.00	0.00	-0.11	0.00	0.34	0.33	0.29	0.04	-0.41	-0.45	0.00	0.00	0.00	0.00	0.00	0.14	-0.13	0.00
Employment Cost Index	0.00	0.00	0.00	0.00	0.00	0.00	-0.31	-0.20	-0.13	0.25	0.32	0.25	0.00	0.00	0.00	0.00	0.00	-0.13	0.17	0.00
Real Disposable Income (b)	0.00	0.00	0.00	0.00	0.01	0.43	2.21	2.85	2.68	1.88	0.01	-0.80	0.00	0.00	0.00	0.00	0.00	1.38	0.97	0.00
Nominal Personal Income (b)	0.00	0.00	0.00	0.00	-0.02	0.33	2.34	3.03	3.03	2.38	0.27	-0.58	0.00	0.00	0.00	0.00	0.00	1.43	1.31	0.00
Industrial Production (a)	0.00	0.00	0.00	0.00	0.13	-0.62	2.96	3.38	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1.21	0.00
Capacity Utilization	0.00	0.00	0.00	0.00	0.03	-0.16	0.28	0.84	1.11	1.13	1.14	1.15	0.00	0.00	0.00	0.00	0.00	0.25	1.13	0.00
Corporate Profits Before Taxes (b)	0.00	0.00	0.00	0.00	0.00	-2.10	3.00	1.00	2.00	2.00	-2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.38	0.00
Corporate Profits After Taxes	0.00	0.00	0.00	0.00	0.00	-2.36	2.90	0.80	1.70	2.50	-2.20	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.36	0.00
Federal Budget Balance (c)	0.00	0.00	0.00	0.00	0.00	0.00	100.00	46.85	46.89	58.13	48.13	-21.73	0.00	0.00	0.00	0.00	0.00	100.00	200.00	0.00
Trade Weighted Dollar Index (d)	0.00	0.00	0.00	0.00	0.00	0.00	-0.75	-0.75	-0.75	-0.75	-0.75	-1.25	0.00	0.00	0.00	0.00	0.00	-0.38	-0.88	0.00
Nonfarm Payroll Change (e)	0.00	0.00	0.00	0.00	0.00	-3.33	780.67	116.67	150.00	88.33	55.00	70.00	0.00	0.00	0.00	0.00	0.00	223.50	90.83	0.00
Unemployment Rate	0.00	0.00	0.00	0.00	0.00	0.00	-0.67	-0.57	-0.23	-0.33	-0.33	-0.40	0.00	0.00	0.00	0.00	0.00	-0.31	-0.33	0.00
Housing Starts (f)	0.00	0.00	0.00	0.00	0.00	0.02	0.12	-0.02	0.00	0.03	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00
Light Vehicle Sales (g)	0.00	0.00	0.00	0.00	0.00	-0.04	0.79	0.00	-0.43	-0.67	-0.77	-1.03	0.00	0.00	0.00	0.00	0.00	0.19	-0.73	0.00
Crude Oil - Brent - Front Contract (h)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.50	0.00
Quarter-End Interest Rates (i)																				
Federal Funds Target Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Secured Overnight Financing Rate																				
3 Month LIBOR	0.00	0.00	0.00	0.00	0.00	0.00	-3.00	-3.00	-3.00	-3.00	-3.00	-3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prime Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.45	0.40	0.30	0.25	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Conventional Mortgage Rate	0.00	0.00	0.00	0.00	0.00	0.00	2.70	2.65	2.65	2.70	2.75	2.85	0.00	0.00	0.00	0.00	0.00	0.02	-0.08	0.00
3 Month Bill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.05	-0.10	-0.15	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00
5 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.10	-0.20	-0.20	-0.30	0.00	0.00	0.00	0.00	0.00	0.00	-0.06	0.00
10 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	-0.20	-0.35	-0.45	-0.55	-0.65	-0.65	0.00	0.00	0.00	0.00	0.00	-0.01	-0.16	0.00
30 Year Bond	0.00	0.00	0.00	0.00	0.00	0.00	-0.45	-0.60	-0.70	-0.80	-0.80	-0.75	0.00	0.00	0.00	0.00	0.00	-0.08	-0.33	0.00

Forecast as of: September 10, 2020

Notes: (a) Compound Annual Growth Rate Quarter-over-Quarter

(b) Year-over-Year Percentage Change

(c) Quarterly Sum - Billions USD; Annual Data Represents Fiscal Yr.

(d) Federal Reserve Advanced Foreign Economies Index, 2006=100 - Quarter

(e) Average Monthly Change

(f) Millions of Units - Annual Data - Not Seasonally Adjusted

(g) Quarterly Data - Average Monthly SAAR; Annual Data - Actual Total Vehicles Sold

(h) Quarterly Average of Daily Close

(i) Annual Numbers Represent Averages

Source: U.S. Department of Commerce, U.S. Department of Labor, IHS Markit, Federal Reserve Board and Wells Fargo Securities

## Wells Fargo International Economic Forecast

(Year-over-Year Percent Change)

	GDP				CPI			
	2019	2020	2021	2022	2019	2020	2021	2022
Global (PPP Weights)	2.9%	-4.3%	6.0%	3.6%	3.6%	3.2%	3.0%	3.3%
Advanced Economies <sup>1</sup>	1.7%	-5.8%	4.8%	2.8%	1.4%	0.8%	1.3%	1.8%
United States	2.3%	-4.2%	4.6%	2.7%	1.8%	1.1%	1.7%	2.0%
Eurozone	1.3%	-8.2%	5.3%	2.4%	1.2%	0.3%	0.9%	1.4%
United Kingdom	1.4%	-10.6%	5.5%	2.9%	1.8%	1.2%	1.5%	1.8%
Japan	0.7%	-6.2%	1.9%	2.0%	0.5%	0.1%	0.2%	0.7%
Canada	1.7%	-5.9%	5.6%	2.5%	1.9%	0.6%	1.7%	2.0%
Switzerland	0.9%	-4.4%	5.0%	1.8%	0.4%	-0.7%	0.0%	0.4%
Australia	1.8%	-3.0%	3.4%	3.0%	1.6%	0.7%	1.6%	2.0%
New Zealand	2.2%	-5.4%	5.7%	3.3%	1.6%	1.3%	1.4%	1.8%
Sweden	1.2%	-4.5%	4.0%	3.0%	1.7%	0.4%	1.5%	1.7%
Norway	1.2%	-4.0%	3.8%	2.5%	2.2%	1.3%	2.1%	1.9%
Developing Economies <sup>1</sup>	3.7%	-3.1%	6.9%	4.2%	5.1%	4.9%	4.2%	4.4%
China	6.1%	2.4%	9.9%	5.8%	2.9%	2.8%	2.1%	2.3%
India	4.2%	-9.3%	9.8%	5.8%	4.5%	5.3%	3.6%	3.9%
Mexico	-0.3%	-13.5%	-1.6%	3.2%	3.6%	3.5%	3.7%	3.5%
Brazil	1.1%	-6.6%	2.4%	2.9%	3.7%	2.6%	3.0%	3.4%

Forecast as of: September 10, 2020

<sup>1</sup>Aggregated Using PPP Weights

Source: International Monetary Fund and Wells Fargo Securities

# International Forecast: Change Since August 12, 2020

## Changes to the Wells Fargo International Economic Forecast

	GDP				CPI			
	2019	2020	2021	2022	2019	2020	2021	2022
Global (PPP Weights)	-0.02%	-0.57%	1.30%		0.12%	0.07%	0.11%	
Advanced Economies <sup>1</sup>	-0.15%	0.25%	0.95%		-0.15%	0.01%	0.08%	
United States	0.17%	0.70%	0.78%		0.00%	0.17%	0.39%	
Eurozone	0.00%	0.14%	1.38%		0.00%	-0.21%	-0.29%	
United Kingdom	-0.05%	-0.52%	-0.38%		0.01%	0.32%	0.05%	
Japan	-0.02%	-0.74%	0.96%		0.00%	0.11%	-0.02%	
Canada	0.00%	0.72%	1.80%		0.00%	-0.03%	-0.03%	
Switzerland								
Australia								
New Zealand								
Sweden								
Norway								
Developing Economies <sup>1</sup>	0.05%	-1.15%	1.55%		0.28%	0.12%	0.13%	
China	0.00%	0.84%	0.41%		0.00%	0.11%	0.25%	
India <sup>2</sup>	-0.67%	-7.64%	6.14%		0.81%	0.23%	0.00%	
Mexico	-0.01%	1.46%	1.85%		0.00%	0.24%	0.23%	
Brazil								

Forecast as of: September 10, 2020

<sup>1</sup>Aggregated Using PPP Weights

Source: International Monetary Fund and Wells Fargo Securities

## Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	Central Bank Key Policy Rate					
	2020		2021			
	Q3	Q4	Q1	Q2	Q3	Q4
United States	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Eurozone <sup>1</sup>	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
United Kingdom	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Japan	-0.10%	-0.10%	-0.10%	-0.10%	-0.10%	-0.10%
Canada	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
	2-Year Note					
	2020		2021			
	Q3	Q4	Q1	Q2	Q3	Q4
United States	0.15%	0.15%	0.20%	0.20%	0.20%	0.25%
Eurozone <sup>2</sup>	-0.65%	-0.60%	-0.60%	-0.55%	-0.50%	-0.40%
United Kingdom	-0.10%	-0.05%	0.00%	0.05%	0.10%	0.15%
Japan	-0.10%	-0.10%	-0.05%	0.00%	0.05%	0.05%
Canada	0.30%	0.30%	0.35%	0.35%	0.35%	0.40%
	10-Year Note					
	2020		2021			
	Q3	Q4	Q1	Q2	Q3	Q4
United States	0.70%	0.85%	1.00%	1.10%	1.20%	1.30%
Eurozone <sup>2</sup>	-0.40%	-0.25%	-0.15%	-0.05%	0.05%	0.10%
United Kingdom	0.25%	0.40%	0.50%	0.55%	0.60%	0.65%
Japan	0.05%	0.10%	0.10%	0.10%	0.15%	0.15%
Canada	0.60%	0.80%	0.90%	1.00%	1.05%	1.15%

Forecast as of: September 10, 2020

<sup>1</sup> ECB Deposit Rate <sup>2</sup> German Government Bond Yield

Source: International Monetary Fund and Wells Fargo Securities

## Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	Central Bank Key Policy Rate					
	2020		2021			
	Q3	Q4	Q1	Q2	Q3	Q4
United States	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Eurozone <sup>1</sup>	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
United Kingdom	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Japan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Canada	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

	2-Year Note					
	2020		2021			
	Q3	Q4	Q1	Q2	Q3	Q4
United States	0.00%	-0.05%	-0.05%	-0.15%	-0.20%	-0.25%
Eurozone <sup>2</sup>	-0.05%	-0.05%	-0.15%	-0.20%	-0.25%	-0.25%
United Kingdom	-0.15%	-0.15%	-0.20%	-0.25%	-0.30%	-0.45%
Japan	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%
Canada	0.00%	-0.05%	-0.05%	-0.10%	-0.20%	-0.30%

	10-Year Note					
	2020		2021			
	Q3	Q4	Q1	Q2	Q3	Q4
United States	0.00%	-0.05%	-0.05%	-0.10%	-0.10%	-0.05%
Eurozone <sup>2</sup>	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
United Kingdom	0.00%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%
Japan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Canada	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Forecast as of: September 10, 2020

<sup>1</sup> ECB Deposit Rate <sup>2</sup> German Government Bond Yield

Source: International Monetary Fund and Wells Fargo Securities



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