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Wells Fargo Economics *Monthly Macro Manual*

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

April 08, 2020

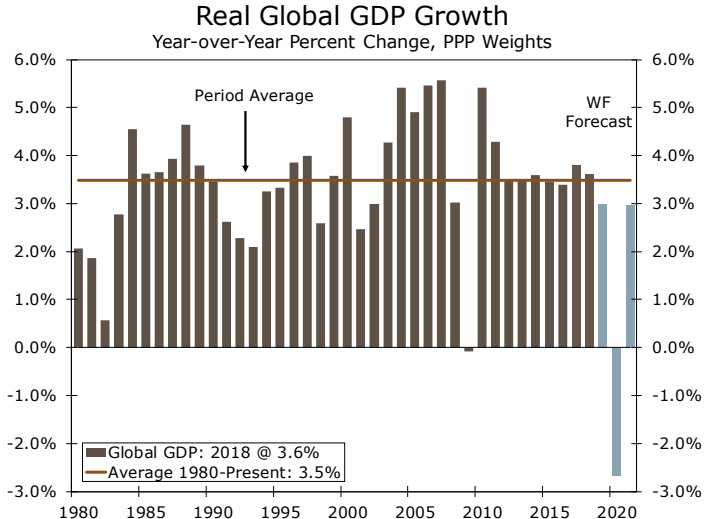
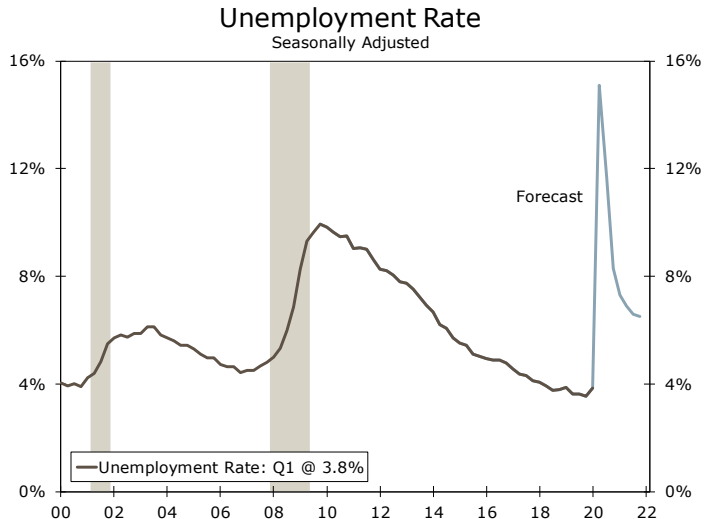
Together we'll go far



Key Takeaways

Developments since our March 25 Forecast

- Our forecast for U.S. real GDP growth looks like this over the next few quarters: a modest contraction in Q1, a historically large decline in Q2, followed by a recovery that starts in Q3. Specifically, we look for real GDP growth of -1.2%, -22.3%, 7.2% and 4.8% over the four quarters of 2020.
- While we expect the rebound to be robust in the second half of the year, it will not be nearly enough to close the output gap that will develop. We have the unemployment rate peaking at 15%-16% in Q2, for example, but only declining to about 8% by year-end.
- We look for the FOMC to keep the fed funds rate at current levels through at least the end of 2021. Our year-end 2020 forecast for the 10-year Treasury yield remained unchanged at 1.25%.
- Our 2020 global growth forecast is now -2.7%. This would easily be the biggest contraction in recent memory, as the biggest annual decline during the Great Recession was just 0.1%. The Eurozone will likely experience a recession at least as bad as the United States, and emerging market economies face a slew of challenges, including a strong U.S. dollar, elevated borrowing costs and collapsing commodity prices.



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

Monthly Macro Calendar: April 6-May 1

Monday	Tuesday	Wednesday	Thursday	Friday
6	7	8	9	10
	JOLTS February 6,448K	FOMC Meeting Minutes	PPI Final Demand (YoY) February 1.3%; March 0.5% (W) Initial Jobless Claims March 28 6,648K; April 4 5,000K (C) Powell* (FOMC Chairman) Gives an Economic Update Webcast	Consumer Price Index (YoY) February 2.3%; March 1.6% (W) Mester* (Cleveland Fed) Holds Virtual Forum on U.S. Economy & Virus
13	14	15	16	17
	Import Price Index (YoY) February -1.2%	Retail Sales (MoM) February -0.5%; March -5.0% (C) Industrial Production (MoM) February 0.6%; March -2.2% (C) U.S. Fed Reserve Releases Beige Book	China Q1 GDP (YoY) Q4 6.0%; Q1 -5.9% (W)	
20	21	22	23	24
FOMC Blackout Period Begins	Existing Home Sales February 5.77M	U.K. Consumer Price Index (YoY) February 1.7% Canada Consumer Price Index (YoY) February 2.2%	New Home Sales February 765K Japan Consumer Price Index (YoY) February 0.4%	Durable Goods Orders (MoM) February 1.2%
27	28	29	30	1
	Consumer Confidence Index March 120.0 Bank of Japan Rate Decision Previous -0.10%	U.S. Q1 GDP (CAGR) Q4 2.1%; Q1 -1.2% (W) FOMC Rate Decision (Upper Bound) Previous 0.25%; April 29 0.25% (W)	Personal Income & Spending (MoM) February 0.6%, 0.2% Employment Cost Index (QoQ) Q4 0.7% Eurozone Q1 GDP (YoY) Q4 1.0%	ISM Manufacturing Index March 49.1
4	5	6	7	8
	Trade Balance February -\$39.9B ISM Non-manufacturing Index March 52.5 RBA Rate Decision Previous 0.25%	Central Bank of Brazil Rate Decision Previous 3.75%	Nonfarm Productivity (QoQ) Q4 1.2% Bank of England Rate Decision Previous 0.10%	Nonfarm Payrolls March -701K

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

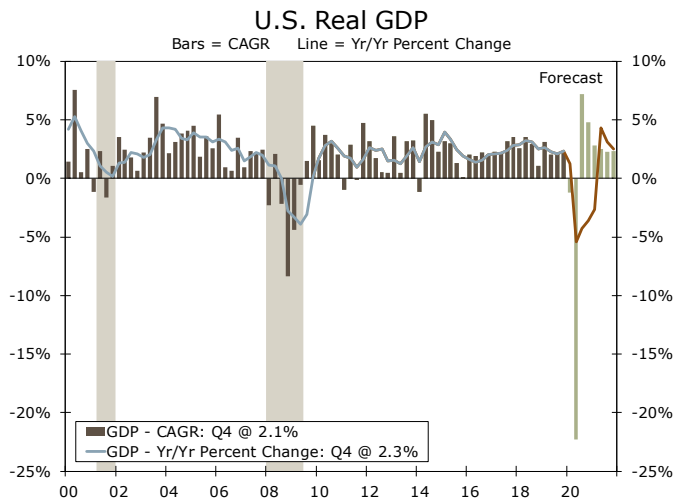
Source: Bloomberg LP and Wells Fargo Securities

Real GDP growth forecast for Q1-2020: -1.2%, Q2-2020: -22.3% (seasonally adjusted annualized rate)

- **Change since last forecast (March 25): -2.4 percentage points, -7.6 percentage points**
- Despite a strong start to the year, economic growth came to a screeching halt in March, when social distancing measures ramped up. **The speed and extent of business closures across the United States means real GDP likely declined during the first quarter, but a bulk of the drop in activity will occur in the current quarter, when we expect real GDP to decline at a 22.3% annualized rate.** We expect nonfarm payrolls to decline by more than 20 million before the recession bottoms out, sending the unemployment rate to more than 15%.

Real GDP growth forecast for full-year 2020: -3.0% (year-over-year percent change)

- **Change since last forecast (March 25): -0.6 percentage points**
- **The timing of a rebound remains dependent on the virus' spread, but the measures taken to combat that spread appear to be slowly working.** As they are gradually lifted, we expect growth to bounce back, although the economy is unlikely to recoup all of the lost output by year-end 2020 or even year-end 2021.
- **By our estimates, real GDP will still be about 5%-6% lower in Q4-2021 than it would have been had the COVID-19 shock never occurred.**



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

Key Themes and Upside/Downside Scenarios

- **Upside scenario:** The COVID-19 outbreak begins to subside and economic activity begins to rapidly ramp up. Hiring comes back online amid the pick up in activity, monetary and fiscal policy responses create the backdrop for a robust second half and the global economy experiences a sharp but brief recession.
- **Downside scenario:** The COVID-19 outbreak continues to spread at a rapid rate, crimping economic growth domestically and abroad. Monetary and fiscal policy responses are ineffective, and the sharp recession we currently project drags on over several quarters, leading to more structural damage and a much less robust recovery.

Inflation Forecast

- **We have revised our inflation forecast lower.** Our headline inflation forecast came down amid our expectation for lower oil prices this year, while our core inflation forecast is lower based on weaker demand expectations in general.

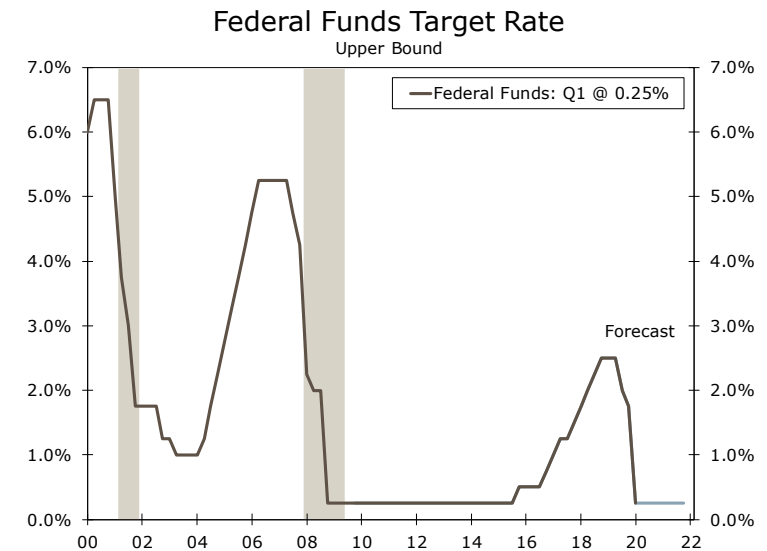
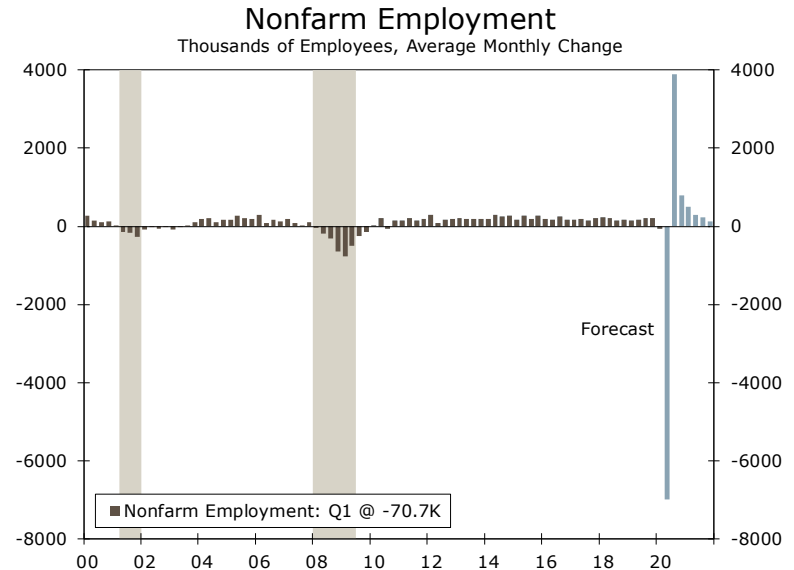
Labor Market Forecast

- The labor market shed 701K jobs in March, and that doesn't include the roughly 10 million people who have subsequently filed for unemployment insurance. **We expect nonfarm payrolls to decline by more than 20 million before the recession bottoms out, sending the unemployment rate to more than 15%.**

Fed Funds Outlook

Fed Funds Forecast for 2020 & 2021: No change

- **We expect the FOMC to keep the fed funds target range unchanged at 0% to 0.25% for the foreseeable future.**
- With the effective fed funds rate at just 0.05%, IOER may need to go up a bit from its current level of 0.10%, perhaps all the way back to 0.25%, where it was from 2008-2015 when the Fed was last at the zero bound.
- The Fed has also restarted quantitative easing and dusted off some of its crisis-era playbook—increasing swap lines with other central banks, reopening facilities for buying commercial paper, lending to primary dealers, etc. **These programs will likely be in effect until at least the end of 2020, in our view.**



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

Wells Fargo U.S. Interest Rate Forecast

	Actual								Forecast							
	2018				2019				2020				2021			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Quarter End Interest Rates																
Federal Funds Target Rate	1.75	2.00	2.25	2.50	2.50	2.50	2.00	1.75	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
3 Month LIBOR	2.31	2.34	2.40	2.81	2.60	2.32	2.09	1.91	1.45	0.50	0.35	0.35	0.45	0.35	0.35	0.40
Prime Rate	4.75	5.00	5.25	5.50	5.50	5.50	5.00	4.75	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Conventional Mortgage Rate	4.44	4.57	4.63	4.64	4.28	3.80	3.61	3.72	3.45	2.90	2.90	2.95	3.00	3.05	3.15	3.20
3 Month Bill	1.73	1.93	2.19	2.45	2.40	2.12	1.88	1.55	0.11	0.15	0.15	0.15	0.20	0.15	0.15	0.20
6 Month Bill	1.93	2.11	2.36	2.56	2.44	2.09	1.83	1.60	0.15	0.15	0.15	0.15	0.20	0.20	0.25	0.35
1 Year Bill	2.09	2.33	2.59	2.63	2.40	1.92	1.75	1.59	0.17	0.25	0.25	0.25	0.30	0.35	0.45	0.55
2 Year Note	2.27	2.52	2.81	2.48	2.27	1.75	1.63	1.58	0.23	0.35	0.40	0.50	0.65	0.75	0.85	0.95
5 Year Note	2.56	2.73	2.94	2.51	2.23	1.76	1.55	1.69	0.37	0.65	0.75	0.80	0.90	0.95	1.05	1.10
10 Year Note	2.74	2.85	3.05	2.69	2.41	2.00	1.68	1.92	0.70	1.00	1.15	1.25	1.30	1.35	1.45	1.50
30 Year Bond	2.97	2.98	3.19	3.02	2.81	2.52	2.12	2.39	1.35	1.65	1.85	1.90	1.95	2.00	2.05	2.10

Forecast as of: April 08, 2020

Source: Federal Reserve Board and Wells Fargo Securities

What Are We Watching in the Month Ahead?

- Fed funds rate going nowhere fast
 - With the Fed unlikely to hike the fed funds rate for an extended period of time, we think the front end of the Treasury curve will remain anchored near current levels.
 - **A deluge of T-bill issuance should help keep yields in positive territory.**
- Fed buying everything in sight
 - In March, the Federal Reserve bought roughly \$800 billion in Treasury securities. Its previous monthly record was just \$120 billion. **Although we expect the pace of Fed buying to slow in the months ahead, the central bank's open-ended QE program should help keep a lid on longer-dated Treasury yields.**
- Second half recovery should lead to moderately higher yields
 - Our forecast expects the U.S. economy to start bouncing back in Q3. This underpins our expectation that Treasury yields will start to rise as the second quarter progresses. **We look for the 10-year Treasury yield to finish 2020 at 1.25%.**

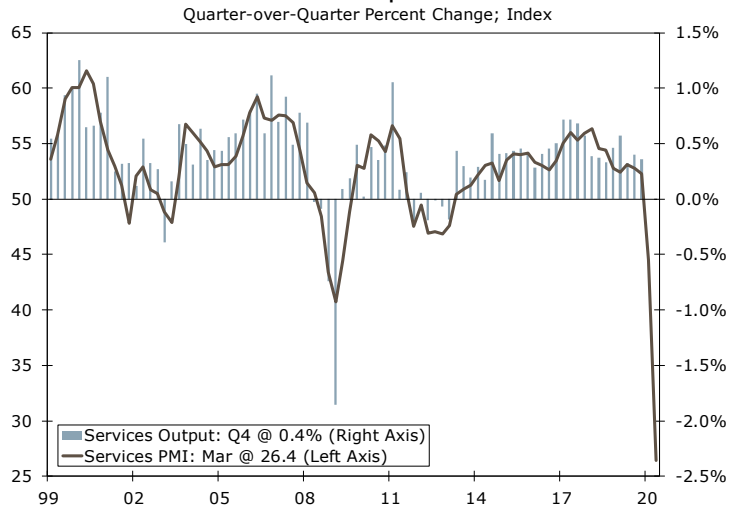
Eurozone Recession to Be Deep

- There have been minimal hard data out of the Eurozone, but the soft data that have been reported have been dreadful. The March services PMI for the Eurozone was 26.4, an awful reading consistent with a historically large contraction in service sector output (bottom left chart). The Italian services PMI was even worse, registering just 17.4.
- We expect the peak-to-trough decline in Eurozone real GDP to be 6.6%, similar to the 6.4% we expect in the United States. However, thus far the fiscal response in Europe has been less forceful, which could lead to a weaker recovery.**

Singapore Economy Contracts, but No Collapse

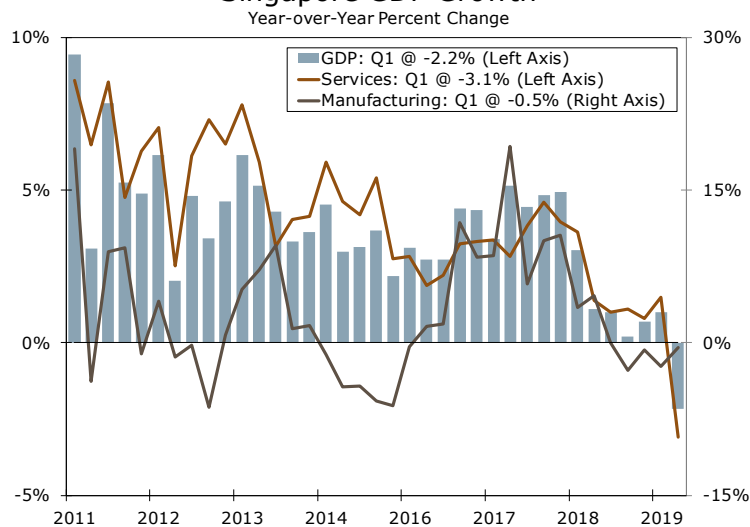
- Singapore, the first country to report Q1 GDP, saw its economy shrink by 10.6% quarter-on-quarter annualized and 2.2% year-over-year.** While Singapore was not as affected by the COVID-19 crisis as many other countries, it is something of a global bellwether, with Singapore's exports equal to around 175% of its GDP.
- Singapore's Q1 data also gave a clear signal of where the pain is likely to be felt in other countries. On a sectoral basis, services output was especially weak, falling by 3.1% year-over-year, while manufacturing output fell by a more moderate 0.5%.

Eurozone Services Output vs Services PMI



Source: Bloomberg LP, Datastream, IHS Markit and Wells Fargo Securities

Singapore 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%	March 2020 <i>100 bps cut, re-instated its QE program and cut its discount rate to 0.25%</i>	No change through Q3-2021
Eurozone (ECB)	-0.50% (Deposit Rate)	March 2020 <i>Announced further asset purchases of 870 billion euros by the end of 2020 and a new long-term lending program</i>	No change through Q3-2021
United Kingdom (BoE)	0.10%	March 2020 <i>Cumulative 65 bps of rate cuts during March, plan to increase its holdings of U.K. government and corporate bonds by 200 billion pounds</i>	No change through Q3-2021
Japan (BoJ)	-0.10%	March 2020 <i>Further purchases of JGBs and USD funds-supplying operations, measures to facilitate corporate financing, active purchases of ETFs and J-REITs</i>	No change through Q3-2021
Canada (BoC)	0.25%	March 2020 <i>Cumulative 150 bps of rate cuts during March and announced a range of non-interest rate actions aimed at improving the functioning of markets or providing liquidity, including outright government bond purchases</i>	No change through Q3-2021

Forecast as of: April 08, 2020

Source: Bloomberg LP and Wells Fargo Securities

What Are We Watching in the Month Ahead?

European Central Bank

- **We think the ECB is done cutting its policy rates, but it could expand its quantitative easing programs even more, should the situation call for it.** Even more sovereign bond purchases could be beneficial if it helps fiscal policymakers finance rescue packages across the Eurozone.

Bank of Japan

- **At this point in time, we do not anticipate any further easing from the BoJ,** though we see the risks as clearly skewed towards some type of more accommodative policy.

Bank of England

- **At this point in time, we do not anticipate any further easing from the BoE,** though we see the risks as clearly skewed towards some type of more accommodative policy.

Bank of Canada

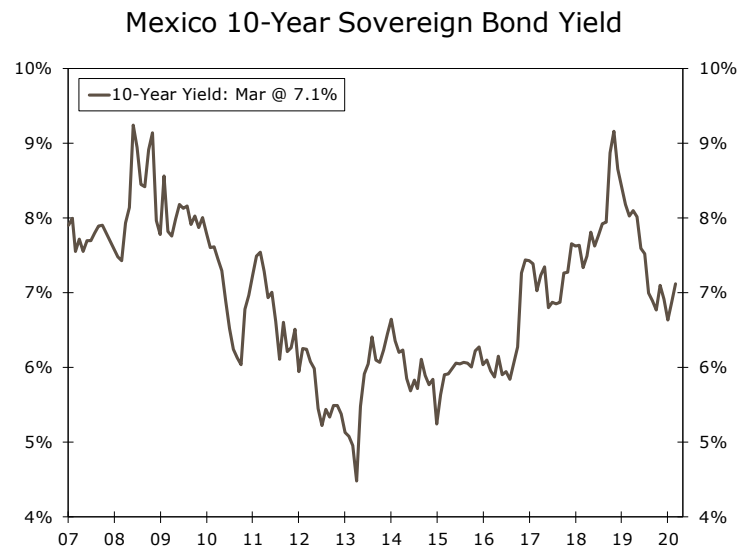
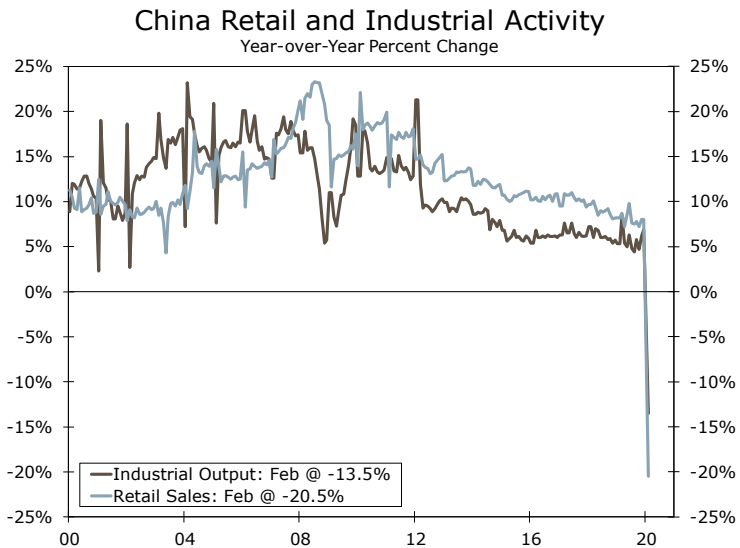
- **We think the BoC is done cutting its policy rate, but we think it will ramp up its quantitative easing program at some point during the summer.**

China Starting to Bounce Back?

- When China reported its data on industrial production and retail sales for the first two months of 2020, the numbers were **significantly worse-than-expected**. Retail sales declined 20.5% year-over-year, and industrial production fell 13.5%. These declines were compared to consensus expectations of 4% and 3% contractions, respectively.
- The upshot, however, is that after much bigger-than-expected contractions, it is perhaps not surprising that initial data for March have been a bit better-than-expected. Chinese Q1 GDP growth is released on April 16. We look for -5.9% year-over-year.

Fiscal Stimulus Tougher in Parts of EM

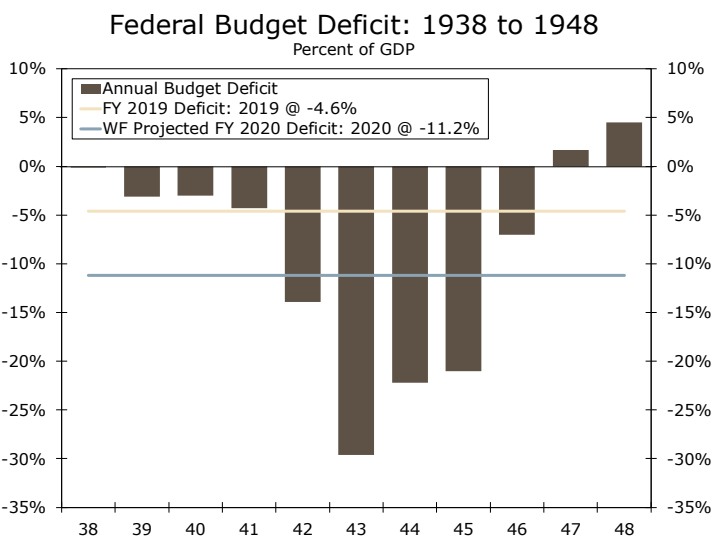
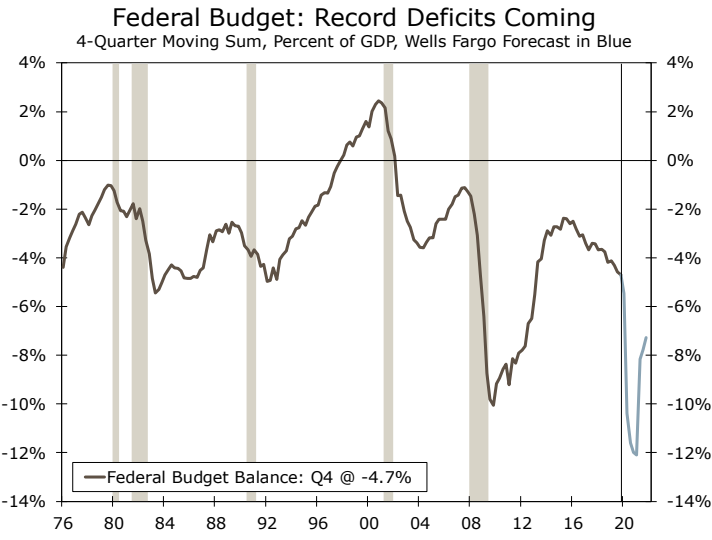
- The enormous fiscal policy response in DM economies like the United States and Japan should help cushion the economic blow that has occurred. Interest rates were already at zero in several of these countries, or, in the case of the United States, Treasury yields dropped dramatically this year.
- In much of EM, this is not necessarily the case. **In Mexico, for example, the 10-year sovereign bond yield is up 40 bps from where it was to start the year, and in India it is essentially unchanged.** Financing costs in much of EM will likely represent a bigger consideration when crafting a fiscal response.



Source: Bloomberg LP, IHS Markit and Wells Fargo Securities

Congress Unleashes the Fiscal Firehose

- On March 27, President Trump signed into law a landmark fiscal bill designed to keep the U.S. economy afloat amid the drastic measures taken to combat COVID-19. **Although we do not yet have an official score from the Congressional Budget Office, the bill appears to be a bit more than \$2 trillion in size, or roughly 9% of U.S. GDP.**
- But, even this may understate the true size of the package. Roughly \$454 billion of that money will be used as an equity infusion into a Federal Reserve emergency lending program designed to lend directly to 'Main Street', e.g. businesses, states and municipal governments. Assuming the Fed uses the equity to lever up about ten times, that would generate more than \$4 trillion in lending power, **bringing the potential total size of the package up to more than \$6 trillion.**
- **In short, the passage of this fiscal stimulus bill gives us reasonable confidence that another Great Depression is not in the cards, and that a healthy bounce back in economic growth will occur starting this fall.**
- But, even these extraordinary measures can only do so much, and in our view the economic contraction in the months ahead will still be quite severe. This is not to say the policies are ill-designed, but rather that **until the COVID-19 outbreak is in check, fiscal and monetary policymakers are just buying time until the economy can begin to operate normally again.**
- Our latest federal budget deficit forecasts for FY 2020 and FY 2021 are \$2.4 trillion and \$1.9 trillion, respectively. **If realized, the FY 2020 budget deficit would be the biggest deficit as a share of the economy since World War II.** If Congress reconvenes in a few weeks and passes additional rescue measures, these numbers would go even higher.



Source: U.S. Department of the Treasury, Office of Management and Budget and Wells Fargo Securities

Wells Fargo U.S. Economic Forecast

	Actual								Forecast								Actual		Forecast	
	2018				2019				2020				2021				2018	2019	2020	2021
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product (a)	2.6	3.5	2.9	1.1	3.1	2.0	2.1	2.1	-1.2	-22.3	7.2	4.8	2.8	2.5	2.2	2.4	2.9	2.3	-3.0	1.7
Personal Consumption	1.7	4.0	3.5	1.4	1.1	4.6	3.1	1.8	-1.5	-27.9	19.6	6.0	2.7	2.5	2.6	2.8	3.0	2.6	-2.8	2.9
Business Fixed Investment	8.8	7.9	2.1	4.8	4.4	-1.0	-2.3	-2.4	-6.8	-22.5	-9.3	3.0	2.9	5.1	4.9	4.9	6.4	2.1	-8.0	0.2
Equipment	6.6	3.4	2.9	7.4	-0.1	0.8	-3.8	-4.3	-16.8	-33.0	-10.8	15.0	4.6	4.6	4.0	4.0	6.8	1.3	-12.9	1.3
Intellectual Property Products	9.7	11.9	4.1	11.7	10.8	3.6	4.7	2.8	4.4	-6.5	-2.8	-4.4	3.7	7.4	6.9	6.7	7.4	7.5	0.5	1.9
Structures	12.1	11.0	-2.1	-9.0	4.0	-11.1	-9.9	-7.2	-7.0	-25.5	-19.0	-7.5	-3.0	1.5	2.5	3.0	4.1	-4.3	-12.9	-5.9
Residential Investment	-5.3	-3.7	-4.0	-4.7	-1.0	-3.0	4.6	6.5	12.0	-30.0	-14.0	-5.0	3.0	5.0	6.0	6.5	-1.5	-1.5	-4.3	-2.4
Government Purchases	1.9	2.6	2.1	-0.4	2.9	4.8	1.7	2.5	2.2	1.8	1.5	1.2	1.0	0.2	-0.5	-0.9	1.7	2.3	2.1	0.7
Net Exports	-884.2	-850.5	-962.4	-983.0	-944.0	-980.7	-990.1	-900.7	-799.8	-694.5	-933.5	-1027.8	-1030.6	-1034.2	-1045.2	-1050.4	-920.0	-953.9	-863.9	-1040.1
Pct. Point Contribution to GDP	0.0	0.7	-2.1	-0.4	0.7	-0.7	-0.1	1.5	2.1	2.2	-5.2	-2.0	-0.1	-0.1	-0.2	-0.1	-0.4	-0.2	0.5	-1.0
Inventory Change	40.5	-28.0	87.2	93.0	116.0	69.4	69.4	13.1	-80.0	-100.0	-40.0	60.0	75.0	75.0	70.0	60.0	48.1	67.0	-40.0	70.0
Pct. Point Contribution to GDP	0.1	-1.2	2.1	0.1	0.5	-0.9	0.0	-1.0	-1.9	-0.4	1.3	2.2	0.3	0.0	-0.1	-0.2	0.1	0.1	-0.6	0.6
Nominal GDP (a)	5.0	7.1	4.8	2.9	3.9	4.7	3.8	3.5	0.1	-23.3	8.6	6.6	4.8	4.4	3.9	3.9	5.4	4.1	-2.1	3.3
Real Final Sales	2.4	4.8	0.8	1.0	2.6	3.0	2.1	3.1	1.3	-21.9	5.7	2.5	2.5	2.5	2.4	2.6	2.8	2.2	-2.4	1.1
Retail Sales (b)	4.7	5.7	5.5	3.5	2.8	3.4	4.0	3.9	3.0	-7.7	-10.2	-6.4	-3.3	7.6	10.9	7.3	4.8	3.5	-5.4	5.4
Inflation Indicators (b)																				
PCE Deflator	1.9	2.3	2.2	1.9	1.4	1.4	1.4	1.4	1.7	0.7	0.7	0.8	0.9	1.7	1.8	1.7	2.1	1.4	0.9	1.5
"Core" PCE Deflator	1.8	2.0	2.0	1.9	1.6	1.6	1.7	1.6	1.8	1.4	1.2	1.2	1.2	1.5	1.5	1.6	2.0	1.6	1.4	1.4
Consumer Price Index	2.2	2.7	2.7	2.2	1.6	1.8	1.8	2.0	2.1	1.0	0.8	0.7	0.9	1.9	2.1	2.0	2.4	1.8	1.2	1.7
"Core" Consumer Price Index	1.9	2.2	2.3	2.2	2.1	2.1	2.3	2.3	2.3	2.1	1.8	1.6	1.5	1.5	1.6	1.6	2.1	2.2	2.0	1.5
Producer Price Index (Final Demand)	2.8	3.0	3.1	2.8	1.9	2.0	1.6	1.1	1.3	0.4	0.8	1.2	1.8	2.6	2.7	2.7	2.9	1.7	0.9	2.4
Employment Cost Index	2.7	2.8	2.8	2.9	2.8	2.7	2.8	2.7	2.6	2.5	2.3	2.2	2.0	2.0	2.0	2.1	2.8	2.7	2.4	2.0
Real Disposable Income (b)	3.9	3.9	4.1	3.9	3.3	3.0	2.7	2.4	2.1	-8.3	-6.2	-1.1	-1.0	10.7	7.9	1.1	4.0	2.9	-3.4	4.5
Nominal Personal Income (b)	5.6	5.8	5.9	4.9	4.6	4.7	4.2	4.1	3.7	-8.7	-7.6	-3.5	-3.5	10.1	9.0	3.6	5.6	4.4	-4.0	4.6
Industrial Production (a)	2.3	4.6	5.2	3.9	-1.9	-2.3	1.1	0.2	-1.8	-9.5	-12.2	-5.1	3.0	6.3	5.7	3.6	3.9	0.9	-4.1	-0.4
Capacity Utilization	77.9	78.5	79.1	79.4	78.6	77.8	77.6	77.2	76.9	61.7	70.4	71.1	71.4	72.5	73.5	74.2	78.7	77.8	70.0	72.9
Corporate Profits Before Taxes (b)	2.9	2.4	4.2	4.2	-2.2	1.3	-1.2	2.2	1.0	-15.0	-12.0	-2.0	6.0	15.0	14.0	6.0	3.4	0.0	-7.0	10.0
Corporate Profits After Taxes	10.3	8.3	11.3	10.1	-2.9	1.3	-0.3	2.2	1.8	-14.3	-11.9	-1.5	7.3	16.3	15.3	7.2	10.0	0.1	-6.5	11.2
Federal Budget Balance (c)	-375	-7	-172	-319	-372	-56	-237	-357	-538	-1045	-460	-520	-639	-294	-448	-383	-779	-984	-2400	-1900
Trade Weighted Dollar Index (d)	103.1	107.3	107.6	110.1	109.8	109.7	111.0	109.9	112.7	114.7	115.2	115.3	114.3	113.0	111.9	111.9	106.4	110.1	114.5	112.8
Nonfarm Payroll Change (e)	234	211	153	172	139	159	203	210	-71	-7000	3900	800	500	300	230	130	193	178	-593	290
Unemployment Rate	4.1	3.9	3.8	3.8	3.9	3.6	3.6	3.5	3.8	15.1	11.7	8.3	7.3	6.9	6.6	6.5	3.9	3.7	9.7	6.8
Housing Starts (f)	1.32	1.26	1.23	1.19	1.21	1.26	1.28	1.44	1.47	1.20	0.90	1.10	1.21	1.21	1.22	1.23	1.25	1.29	1.17	1.22
Light Vehicle Sales (g)	17.1	17.3	17.0	17.4	16.8	17.0	17.0	16.7	15.0	9.0	11.0	13.3	15.7	16.2	16.4	16.6	17.2	16.9	12.1	16.2
Crude Oil - Brent - Front Contract (h)	66.9	74.6	75.8	68.6	63.8	67.6	61.5	61.7	51.0	18.0	30.0	37.0	37.0	37.0	37.0	37.0	71.5	63.6	34.0	37.0
Quarter-End Interest Rates (i)																				
Federal Funds Target Rate	1.75	2.00	2.25	2.50	2.50	2.50	2.00	1.75	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1.96	2.25	0.25	0.25
3 Month LIBOR	2.31	2.34	2.40	2.81	2.60	2.32	2.09	1.91	1.45	0.50	0.35	0.35	0.45	0.35	0.35	0.40	2.31	2.33	0.66	0.39
Prime Rate	4.75	5.00	5.25	5.50	5.50	5.50	5.00	4.75	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	4.96	5.25	3.25	3.25
Conventional Mortgage Rate	4.44	4.57	4.63	4.64	4.28	3.80	3.61	3.72	3.45	2.90	2.90	2.95	3.00	3.05	3.15	3.20	4.54	3.94	3.05	3.10
3 Month Bill	1.73	1.93	2.19	2.45	2.40	2.12	1.88	1.55	0.11	0.15	0.15	0.15	0.20	0.15	0.15	0.20	1.97	2.11	0.14	0.18
6 Month Bill	1.93	2.11	2.36	2.56	2.44	2.09	1.83	1.60	0.15	0.15	0.15	0.15	0.20	0.20	0.25	0.35	2.14	2.11	0.15	0.25
1 Year Bill	2.09	2.33	2.59	2.63	2.40	1.92	1.75	1.59	0.17	0.25	0.25	0.25	0.30	0.35	0.45	0.55	2.33	2.05	0.23	0.41
2 Year Note	2.27	2.52	2.81	2.48	2.27	1.75	1.63	1.58	0.23	0.35	0.40	0.50	0.65	0.75	0.85	0.95	2.53	1.97	0.37	0.80
5 Year Note	2.56	2.73	2.94	2.51	2.23	1.76	1.55	1.69	0.37	0.65	0.75	0.80	0.90	0.95	1.05	1.10	2.75	1.95	0.64	1.00
10 Year Note	2.74	2.85	3.05	2.69	2.41	2.00	1.68	1.92	0.70	1.00	1.15	1.25	1.30	1.35	1.45	1.50	2.91	2.14	1.03	1.40
30 Year Bond	2.97	2.98	3.19	3.02	2.81	2.52	2.12	2.39	1.35	1.65	1.85	1.90	1.95	2.00	2.05	2.10	3.11	2.58	1.69	2.03

Forecast as of: April 08, 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 End
 (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

U.S. Economic Forecast: Change Since March 25, 2020

Changes to the Wells Fargo U.S. Economic Forecast

	Actual								Forecast								Actual		Forecast	
	2018				2019				2020				2021				2018	2019	2020	2021
	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	0.00	0.00	0.03	-2.39	-7.63	13.51	0.70	-0.89	-1.12	-1.63	-0.27	0.00	0.00	-0.60	0.59
Personal Consumption	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	-3.26	-10.91	26.42	-0.57	-2.21	-2.07	-0.62	0.01	0.00	0.01	-0.33	1.17
Business Fixed Investment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.11	-5.62	-9.92	7.44	12.80	0.11	-3.90	-3.64	-1.90	0.00	-0.01	-1.73	1.61
Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	-11.85	-13.80	17.17	30.95	0.01	-9.39	-8.59	-4.43	0.00	0.01	-2.02	4.56
Intellectual Property Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.17	0.53	-4.02	2.75	-0.01	0.00	0.00	0.00	0.00	0.00	-0.08	-0.52	0.09
Structures	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.00	-10.50	-9.50	-1.50	0.00	0.00	0.00	0.00	0.00	0.06	-3.25	-2.50
Residential Investment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	-21.00	-7.50	-2.50	0.00	0.00	0.00	0.75	0.00	0.02	-5.85	-3.24
Government Purchases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.10	0.00	-1.31	-1.39	-1.00	-0.70	-0.70	-0.31	-0.60	0.00	-0.01	-0.50	-0.82
Net Exports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	73.2	198.7	-51.0	-105.8	-22.3	40.9	26.0	29.1	0.0	-0.3	28.8	18.4
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	1.56	2.63	-5.44	-1.18	1.80	1.35	-0.32	0.07	0.00	0.00	0.15	-0.06
Inventory Change	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	-40.00	-25.00	15.00	45.00	-5.00	-25.00	-40.00	-40.00	0.00	0.03	-1.25	-27.50
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.82	0.31	0.91	0.66	-1.10	-0.43	-0.32	0.00	0.00	0.00	-0.01	-0.14
Nominal GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-1.98	-8.05	13.43	0.72	-0.91	-1.14	-1.65	-0.27	0.00	0.00	-0.64	0.52
Real Final Sales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-1.59	-7.87	12.46	0.04	0.23	-0.68	-1.31	-0.28	0.00	0.00	-0.60	0.73
Retail Sales (b)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	-0.95	0.28	0.91	0.29	2.13	0.73	0.00	0.00	0.00	0.23	0.76
Inflation Indicators (b)																				
PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.12	-0.03	-0.10	-0.11	-0.22	-0.07	0.00	0.00	0.00	0.00	-0.03	-0.07
"Core" PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05	-0.09	-0.11	-0.13	-0.17	-0.02	0.00	0.00	0.00	0.00	-0.07	-0.05
Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.15	-0.19	-0.19	-0.19	-0.03	0.03	0.04	0.00	0.00	-0.13	-0.04
"Core" Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.05	-0.05	-0.05	-0.03	0.00	0.00	0.00	0.00	-0.03	-0.02
Producer Price Index (Final Demand)	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
Employment Cost Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.03	-0.03	-0.03	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01
Real Disposable Income (b)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	-8.86	-5.87	-1.27	-1.35	8.44	5.04	0.00	0.00	0.00	-3.98	2.84
Nominal Personal Income (b)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.22	-8.82	-5.89	-1.36	-1.55	8.30	5.11	0.00	0.00	0.00	-3.97	2.75
Industrial Production (a)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	2.14	0.69	0.00	0.00	0.00	0.00	0.00	0.16	0.63
Capacity Utilization	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	-13.07	-1.96	0.10	0.00	0.00	0.00	0.00	0.00	0.00	-3.67	0.00
Corporate Profits Before Taxes (b)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.18	-2.00	0.00	0.00	0.00	3.50	0.00	2.00	1.00	0.00	1.30	-0.42	1.65
Corporate Profits After Taxes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.80	-2.05	0.00	0.10	0.50	3.60	0.00	2.00	1.00	0.00	1.21	-0.29	1.68
Federal Budget Balance (c)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.36	-5.84	1.48	-43.99	-39.47	-68.05	-48.50	-0.19	0.00	0.00	0.00	-200.00
Trade Weighted Dollar Index (d)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-2.79	-1.30	-1.00	0.20	0.50	0.30	0.40	0.40	0.00	0.00	-1.22	0.40
Nonfarm Payroll Change (e)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-237.67	-5000.00	4500.00	330.00	150.00	100.00	30.00	-10.00	0.00	0.00	-101.92	67.50
Unemployment Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	7.80	3.10	0.10	-0.50	-0.60	-0.60	-0.50	0.00	0.00	2.76	-0.55
Housing Starts (f)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.23	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	0.00
Light Vehicle Sales (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.20	0.00
Crude Oil - Brent - Front Contract (h)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	-15.00	-8.00	-6.00	-6.00	-6.00	-6.00	-6.00	0.00	0.00	-7.24	-6.00
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
3 Month LIBOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00
Prime 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
Conventional Mortgage Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00
3 Month Bill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
2 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.00
5 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00
10 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	0.00
30 Year Bond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.00

Forecast as of: April 08, 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 End

(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			
	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
Global (PPP Weights)	3.6%	3.0%	-2.7%	3.0%	3.6%	3.4%	2.6%	3.0%
Advanced Economies ¹	2.2%	1.9%	-3.4%	1.3%	2.0%	1.6%	0.5%	1.5%
United States	2.9%	2.3%	-3.0%	1.7%	2.4%	1.8%	1.2%	1.7%
Eurozone	1.9%	1.2%	-4.4%	0.4%	1.8%	1.2%	-0.1%	1.2%
United Kingdom	1.3%	1.4%	-3.5%	0.9%	2.5%	1.8%	0.5%	1.1%
Japan	0.3%	0.7%	-4.3%	0.7%	1.0%	0.5%	-0.5%	0.8%
Canada	2.0%	1.6%	-4.2%	-0.5%	2.3%	1.9%	0.2%	1.5%
Developing Economies ¹	4.5%	3.8%	-2.2%	4.2%	4.8%	4.8%	4.0%	4.0%
China	6.7%	6.1%	-1.2%	7.5%	2.1%	2.9%	1.8%	1.5%
India	6.9%	5.3%	-1.1%	3.7%	3.9%	3.7%	4.2%	3.8%
Mexico	2.1%	-0.1%	-5.1%	-0.2%	4.9%	3.6%	2.9%	3.1%

Forecast as of: April 08, 2020

¹Aggregated Using PPP Weights

Source: International Monetary Fund and Wells Fargo Securities

Changes to the Wells Fargo International Economic Forecast

	GDP				CPI			
	2018	2019	2020	2021	2018	2019	2020	2021
Global (PPP Weights)	0.00%	0.00%	-0.04%	0.31%	0.00%	0.00%	-0.03%	-0.02%
Advanced Economies ¹	0.00%	0.00%	-0.35%	0.43%	0.00%	0.00%	-0.06%	-0.05%
United States	0.00%	0.00%	-0.60%	0.59%	0.00%	0.00%	-0.14%	-0.10%
Eurozone	0.00%	0.00%	-0.20%	0.19%	0.00%	0.00%	0.00%	0.00%
United Kingdom	0.00%	0.01%	-0.32%	0.06%	0.00%	0.00%	0.00%	0.00%
Japan	0.00%	0.00%	0.11%	0.01%	0.00%	0.00%	0.00%	0.00%
Canada	0.00%	0.00%	-0.62%	0.38%	0.00%	0.00%	0.00%	0.00%
Developing Economies ¹	0.00%	0.00%	0.17%	0.23%	0.00%	0.00%	0.00%	0.00%
China	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
India	0.19%	0.00%	0.87%	1.06%	0.00%	0.00%	0.00%	0.00%
Mexico	0.00%	0.00%	-0.25%	-0.01%	0.00%	0.00%	0.00%	0.00%

Forecast as of: April 08, 2020

¹Aggregated Using PPP Weights

Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	Central Bank Key Policy Rate					
	2020			2021		
	Q2	Q3	Q4	Q1	Q2	Q3
United States	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
Eurozone ¹	-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		
	Q2	Q3	Q4	Q1	Q2	Q3
United States	0.35%	0.40%	0.50%	0.65%	0.75%	0.85%
Eurozone ²	-0.70%	-0.65%	-0.60%	-0.50%	-0.40%	-0.25%
United Kingdom	0.15%	0.20%	0.30%	0.40%	0.50%	0.60%
Japan	-0.15%	-0.15%	-0.10%	0.00%	0.05%	0.05%
Canada	0.60%	0.65%	0.70%	0.85%	1.00%	1.10%
	10-Year Note					
	2020			2021		
	Q2	Q3	Q4	Q1	Q2	Q3
United States	1.00%	1.15%	1.25%	1.30%	1.35%	1.45%
Eurozone ²	-0.40%	-0.30%	-0.20%	-0.10%	0.00%	0.10%
United Kingdom	0.45%	0.55%	0.70%	0.75%	0.80%	0.85%
Japan	0.00%	0.05%	0.10%	0.15%	0.15%	0.20%
Canada	0.90%	1.00%	1.15%	1.25%	1.35%	1.45%

Forecast as of: April 08, 2020

¹ ECB Deposit Rate ² 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		
	Q2	Q3	Q4	Q1	Q2	Q3
United States	0.00%	0.00%	0.00%	0.00%	0.00%	
Eurozone ¹	0.00%	0.00%	0.00%	0.00%	0.00%	
United Kingdom	0.00%	0.00%	0.00%	0.00%	0.00%	
Japan	0.00%	0.00%	0.00%	0.00%	0.00%	
Canada	0.00%	0.00%	0.00%	0.00%	0.00%	

	2-Year Note					
	2020			2021		
	Q2	Q3	Q4	Q1	Q2	Q3
United States	0.00%	0.00%	0.00%	0.00%	0.00%	
Eurozone ²	0.00%	0.00%	0.00%	0.00%	0.00%	
United Kingdom	0.00%	0.00%	0.00%	0.00%	0.00%	
Japan	0.05%	0.00%	0.00%	0.00%	0.00%	
Canada	0.00%	0.00%	0.00%	0.00%	0.00%	

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

Forecast as of: April 08, 2020

¹ ECB Deposit Rate ² German Government Bond Yield

Source: International Monetary Fund and Wells Fargo Securities

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