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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 10, 2019

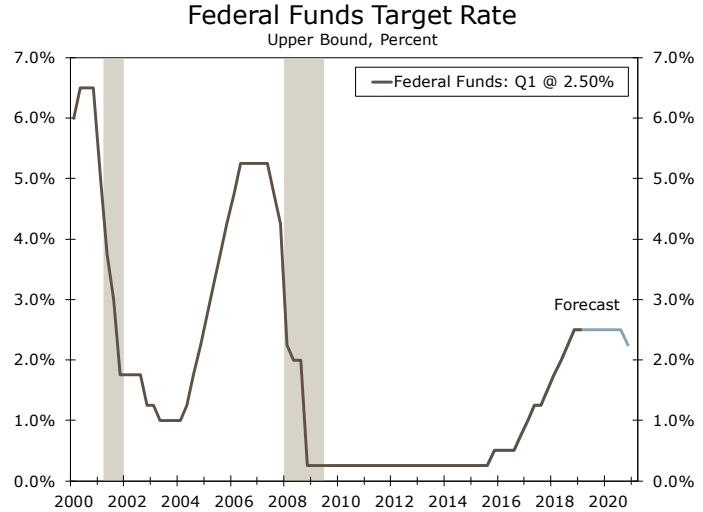
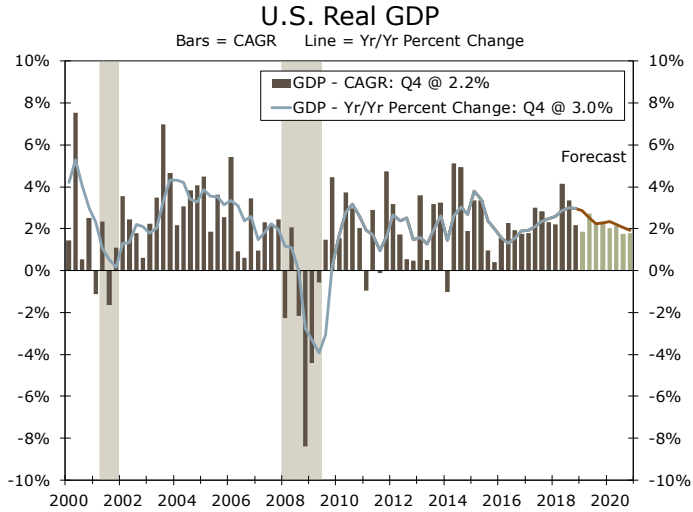
Together we'll go far



Key Takeaways

Developments since our March Monthly Economic Outlook

- **Our forecast for 2019 U.S. real GDP growth has increased slightly to 2.5% from 2.4% previously.** The loss of momentum in the first quarter is expected to be followed by a rebound to nearly 3% in the second quarter. Real consumer spending is the main culprit for weaker Q1 growth, but underlying fundamentals remain supportive of stronger growth in coming quarters.
- **We no longer expect the Fed to hike rates in 2019. We expect the fed funds rate to remain unchanged at 2.25%-2.50% until Q4-2020, where we have a 25 bps cut penciled in.** Both our growth and inflation forecasts have drifted lower over the past few months, mitigating the need for another hike later this year. Our read of the Fed is that, with growth slowing and inflation showing few signs of meaningfully moving above 2%, the central bank sees no reason to resume tightening policy anytime soon. **Our 2019 year-end target for the 10-year Treasury yield is now 2.70%.**
- A still unresolved U.S.-China trade dispute and the United Kingdom seeking a further extension of the deadline to leave the European Union continue to add uncertainty to the international outlook.



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

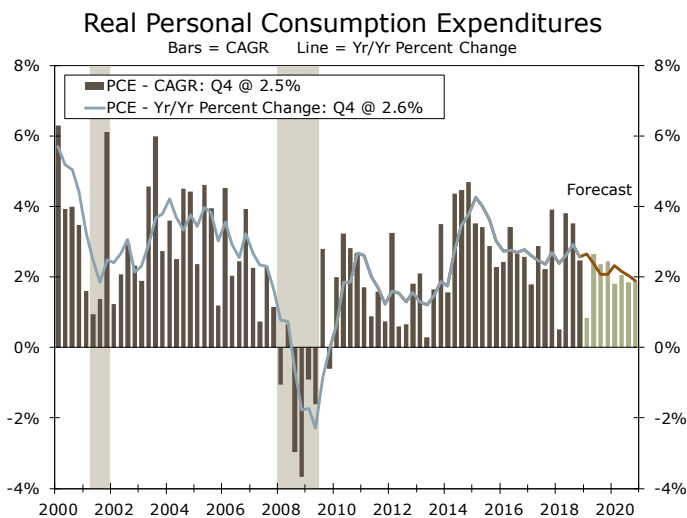
Monthly Macro Calendar: April 8-May 3

Monday	Tuesday	Wednesday	Thursday	Friday
8	9	10	11	12
	JOLTS Job Openings February 7,087 Clarida* (Fed Board of Governors) Speaks at Fed Listens Event	CPI (YoY) February 1.5%; March 1.9% (W) European Central Bank Meeting Previous -0.40% (Deposit Rate) FOMC Meeting Minutes European Council Meeting on Brexit	PPI Final Demand (YoY) February 1.9%; March 1.9% (W) Clarida* (Fed Board of Governors) Speaks at Annual IIF Meeting in Washington Bullard* (St. Louis Fed) Speaks on Economy and Monetary Policy	Import Price Index (YoY) February -1.3%; March -0.4% (W) Brexit Deadline
15	16	17	18	19
Evans* (Chicago Fed) Discusses Economy and Monetary Policy Rosengren* (Boston Fed) Speaks at Davidson College	Industrial Production (MoM) February 0.0% China Q1 GDP (QoQ) Q4 1.5%	Trade Balance January -\$51.1B Bullard* (St. Louis Fed) Speaks at Hyman Minsky Conference U.S. Federal Reserve Beige Book	Retail Sales (MoM) February -0.2% Japan CPI (YoY) February 0.2%	Housing Starts February 1,162K
22	23	24	25	26
Existing Home Sales February 5.51M	New Home Sales February 667K	Bank of Canada Meeting Previous 1.75%	Durable Goods (MoM) February -1.6% Bank of Japan Meeting Previous -0.10%	U.S. Q1 GDP (Annualized, QoQ) Q4 2.2%; Q1 1.8% (W)
29	30	1	2	3
Personal Income (MoM) February 0.2%	ECI Q4 0.7% Consumer Confidence Index March 124.1 Eurozone Q1 GDP (QoQ) Q4 0.2%	ISM Manufacturing Index March 55.3 FOMC Meeting Previous 2.50%; May 1 2.50% (W) Treasury's Quarterly Refunding	Nonfarm Productivity Q4 1.9% Bank of England Meeting Previous 0.75%	Nonfarm Payrolls March 196,000 ISM Non-Manufacturing Index March 56.1 Eurozone CPI (YoY) March 1.4%

Note: (W) = Wells Fargo Estimate, (C) = Consensus Estimate, * = voting FOMC member in 2019

Source: Bloomberg LP and Wells Fargo Securities

- Most recent real GDP growth forecast for Q1-2019: 1.8% (seasonally adjusted annual rate)
 - **Change since last *Monthly Economic Outlook*: +0.5 percentage point**
 - **Commentary: The revisions to our forecast for Q1-2019 have, on balance, boosted Q1 growth by half a percentage point since our March monthly.** Even still, if our forecast proves correct Q1 would mark the slowest quarterly growth rate in two years. The deceleration in retail sales at the end of 2018 and lackluster spending in the first two months of this year suggest consumption was sluggish in Q1. Growth has remained positive, however, and other areas of spending have also started to look better. The decline in mortgage rates has provided a reprieve to the housing market. Despite the government shutdown spanning most of January, government spending looks to have made a positive contribution to growth in Q1. State & local spending growth in particular has bounced back after a weak fourth quarter.
- Real GDP growth forecast for full-year 2019: 2.5% (2.4% Q4-over-Q4)
 - **Change since last *Monthly Economic Outlook*: +0.1 percentage point**
 - **Commentary: Our forecast for 2019 economic growth remains largely unchanged.** After some temporary weakness in the first quarter, we expect real GDP growth to be solid in 2019, but down from 2018's pace.



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

Key Themes and Upside/Downside Scenarios

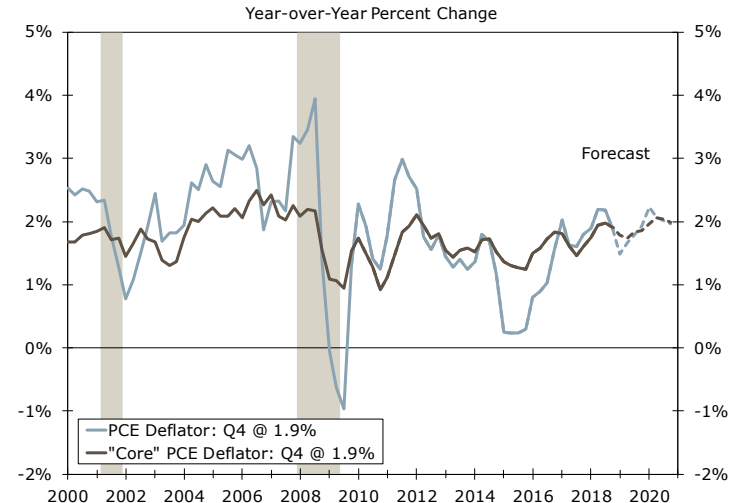
- **Growth is set to continue. But with real GDP growth at 2.5% in 2019 and 2.1% in 2020, growth will likely be well off the 2.9% rate of 2018.**
- **Upside scenario:** Trade uncertainty across the globe dissipates after a U.S.-China deal is reached and Brexit is resolved, while the dovish shift by most major central banks helps keep the expansion going.
- **Downside scenario:** The lagged effect of higher interest rates pressures consumers and businesses, while trade uncertainty continues to weigh on global manufacturing. Coupled with fading fiscal stimulus, economic growth in the United States slows more sharply than we currently expect.

- Inflation Forecast**
 - Our inflation forecast has drifted modestly lower. **We still expect most inflation measures to remain near the Fed's 2% target this year**, but core PCE inflation should continue to run just below target, limiting the need for the FOMC to raise rates.
- Labor Market Forecast**
 - Labor market indicators remain impressive, but the pace of gains has eased**, suggesting a slower trend in job growth and less rapid tightening in the labor market this year. **Employers added an average of 180,000 jobs per month in the first quarter**. We expect average monthly job gains in 2019 will fall to 168,000 from 223,000 in 2018.

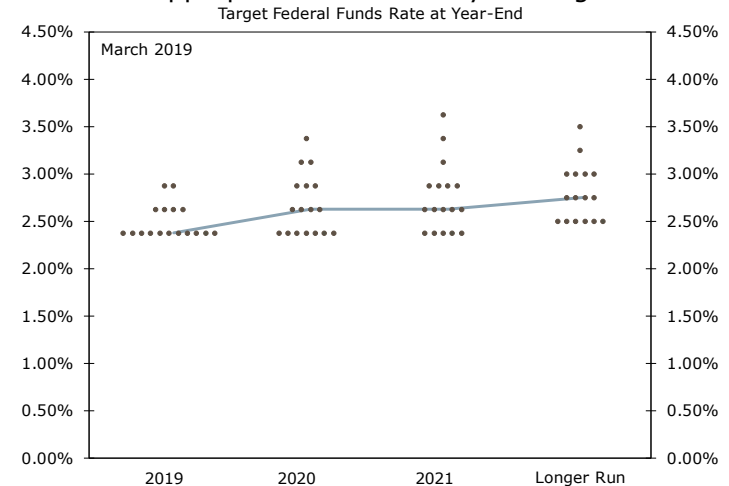
Fed Funds Outlook

- Fed Funds Forecast for 2019**
 - Rates to remain unchanged at 2.25%-2.50%**
 - With inflation currently running just below the Fed's target and likely to remain so in the near-term, conditions no longer justify a rate hike in 2019, in our view. But, the Fed probably will not feel compelled to cut rates anytime soon either, as growth remains at or above potential and price growth is well away from deflation territory.
- Fed Funds Forecast for 2020**
 - One 25 bps cut in Q4-2020**
 - As quarterly economic growth falls below 2% in H2-2020, we anticipate policy may need to become less restrictive.

PCE Deflator & "Core" PCE Deflator



Appropriate Pace of Policy Firming



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

Wells Fargo U.S. Interest Rate Forecast

	Actual				Forecast							
	2018				2019				2020			
	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	2.50	2.50	2.50	2.50	2.50	2.25
3 Month LIBOR	2.31	2.34	2.40	2.81	2.60	2.65	2.65	2.65	2.65	2.65	2.65	2.40
Prime Rate	4.75	5.00	5.25	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.25
Conventional Mortgage Rate	4.44	4.57	4.63	4.64	4.28	4.20	4.25	4.30	4.35	4.30	4.25	4.15
3 Month Bill	1.73	1.93	2.19	2.45	2.40	2.40	2.40	2.40	2.40	2.40	2.35	2.15
6 Month Bill	1.93	2.11	2.36	2.56	2.44	2.45	2.45	2.45	2.45	2.40	2.35	2.15
1 Year Bill	2.09	2.33	2.59	2.63	2.40	2.50	2.50	2.45	2.45	2.40	2.30	2.10
2 Year Note	2.27	2.52	2.81	2.48	2.27	2.45	2.45	2.40	2.40	2.30	2.20	2.05
5 Year Note	2.56	2.73	2.94	2.51	2.23	2.45	2.50	2.50	2.45	2.35	2.25	2.10
10 Year Note	2.74	2.85	3.05	2.69	2.41	2.60	2.65	2.70	2.75	2.70	2.65	2.55
30 Year Bond	2.97	2.98	3.19	3.02	2.81	2.95	3.00	3.05	3.10	3.10	3.05	3.00

Forecast as of: April 10, 2019

Source: Federal Reserve Board and Wells Fargo Securities

What Are We Watching in the Month Ahead?

- Can foreign central banks get back on track?
 - Even if the Fed were to resume hiking rates, U.S. monetary policy is much closer to neutral than is the case in most other advanced economies. **If foreign economies like the Eurozone and the United Kingdom can get back on track, tighter monetary policy abroad could push U.S. rates higher even in the absence of Fed tightening.**
- Treasury Supply: Nearing an Inflection Point
 - Although the level of net Treasury issuance is likely to remain high, growth is likely to slow in the near-term as the deficit relative to GDP stabilizes and the Fed's balance sheet redemptions end. **Our attention has turned to guidance on where exactly along the curve the Fed will purchase Treasury securities.**
- Inflation: Stuck Below 2%?
 - It would likely take higher inflation than we currently forecast for the Fed to take a hawkish turn and resume hiking interest rates, in our view. **Will the inflation data surprise to the upside?**

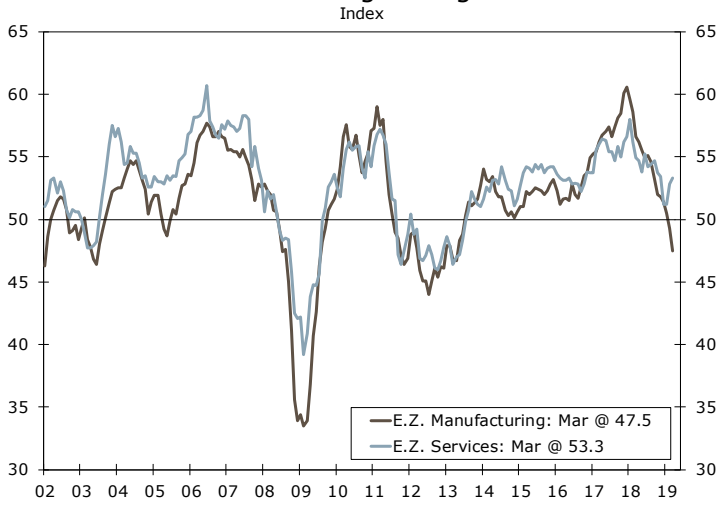
Services Up, Manufacturing Down in Europe

- In some areas, economic data in the Eurozone have shown signs of stabilization. The purchasing manager index (PMI) for services has rebounded over the past couple months, as have real retail sales, which were up 2.8% year-over-year in February.
- However, **the PMI for Eurozone manufacturing has continued to plummet, reaching levels not seen since the aftermath of the European sovereign debt crisis.** German manufacturing orders have been slowing for most of the past year, and at present **are down 8.4% year-over-year, the steepest contraction since 2009.**

Trade Uncertainty a Challenge

- Trade uncertainty is likely playing a role in this manufacturing-driven slowdown. If the U.K. leaves the European Union without a deal, it would likely create trade chaos as policymakers on both sides of the English Channel struggle to make sense of what the rules of the road would be. In addition, the threat of auto tariffs enacted by the Trump administration on European auto manufacturers continues to lurk ominously in the background.
- With a U.S.-China trade deal remaining elusive and the outlook for USMCA still murky, **trade uncertainty has remained elevated in 2019.**

Eurozone Purchasing Managers' Indices



German Manufacturing Orders



Source: Bloomberg LP, IHS Markit and Wells Fargo Securities

Wells Fargo Central Bank Policy Forecasts

Central Bank	Current Policy Rate	Last Major Policy Change	WF Next Forecasted Policy Change
United States (FOMC)	2.50	December 2018 <i>25 bps hike</i>	Next Rate Cut: Q4-2020
Eurozone (ECB)	-0.40 (Deposit Rate)	December 2018 <i>Confirmed end of QE program at end of 2018</i>	Next Rate Hike: Q1-2020
United Kingdom (BoE)	0.75	August 2018 <i>25 bps hike</i>	Next Rate Hike: Q3-2019
Japan (BoJ)	-0.10	July 2018 <i>QQE and a greater degree of variation in 10-year govt. bond yield target</i>	No change through end-2020
Canada (BoC)	1.75	October 2018 <i>25 bps hike</i>	Next Rate Hike: Q3-2019

Forecast as of: April 10, 2019

Source: Bloomberg LP and Wells Fargo Securities

What Are We Watching in the Month Ahead?

- **European Central Bank**
 - With core inflation remaining stagnant near 1% and the Eurozone economy still sluggish, **we do not expect a rate hike from the ECB until Q1-2020.**
- **Bank of Japan**
 - **We do not expect the BoJ to make any material changes to monetary policy in 2019.** With global growth softening, other central banks adopting more dovish stances and an increase in the consumption tax scheduled to take place later this year, even small tweaks to policy are likely too much of a risk for the BoJ to undertake.
- **Bank of England**
 - We currently expect the BoE to resume hiking rates in the third quarter, but **that is contingent upon a resolution to Brexit before then. A long extension would likely push back the timing of the next rate hike.**
- **Bank of Canada**
 - **We expect the BoC to raise rates just once in 2019, likely in the third quarter.** Oil prices, the housing market and global trade policy are the key areas to watch for the future path of rate hikes.

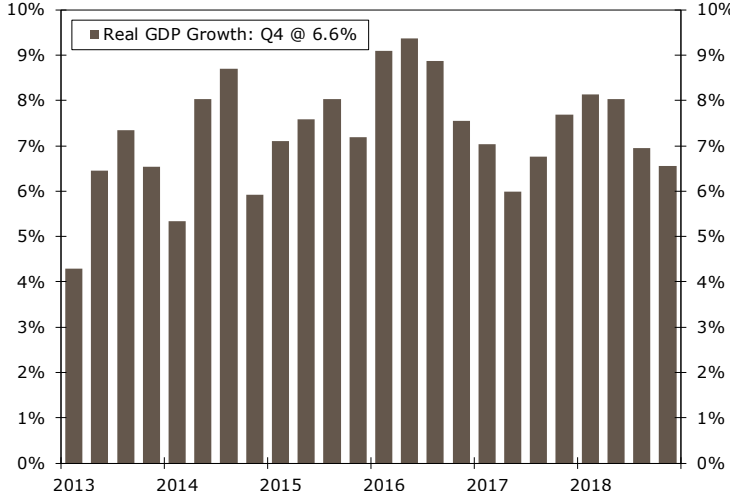
Even India Is Cutting Rates

- Real GDP in India grew 7.0% in 2018, one of the fastest growth rates in the world. Yet, like many other major central banks, the Reserve Bank of India (RBI) took a dovish turn in April, cutting its main policy rates 25 basis points.
- What gives? **The RBI noted that the economy is “facing headwinds, especially on the global front.”** Though economic growth remains robust compared to most countries, it has slowed over the past couple quarters, amid sluggish private investment growth.

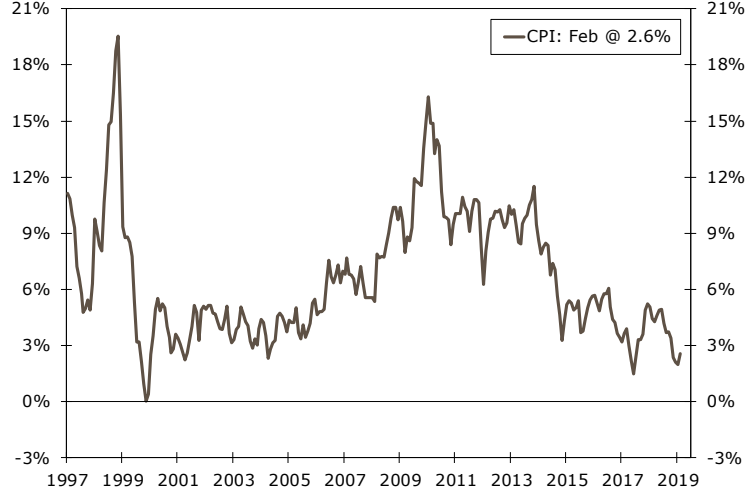
Questions Remain about RBI Independence

- In addition, inflation pressures have been fairly muted, as the consumer price index was up just 2.6% in February, at the low end of the RBI’s target of 4% with a tolerable band +/- 2%.
- While the data appear weak enough to justify some policy easing, the timing comes on the eve of national elections in India. Given the recent questions surrounding possible political interference in the RBI, **this policy move is unlikely to ease concerns about the central bank’s independence.** Markets are pricing in another 21 bps of easing over the next 12 months.

Indian GDP Growth
Year-over-Year Percent Change



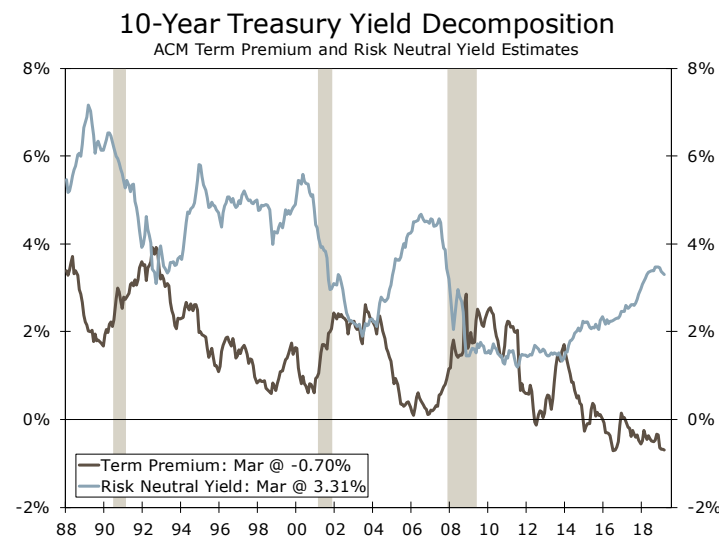
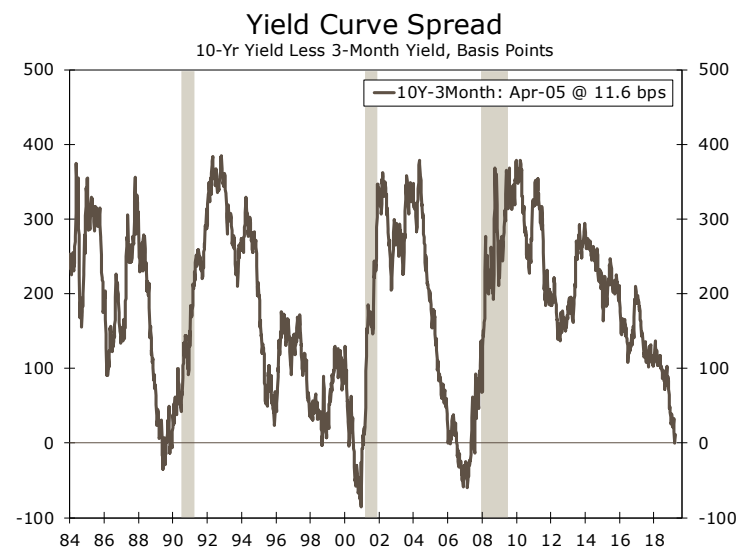
Indian Consumer Price Index
Year-over-Year Percent Change



Source: Bloomberg LP, International Monetary Fund and Wells Fargo Securities

Inverted Yield Curve: Is It Different This Time?

- On March 22, the yield on the 10-year Treasury note fell below the yield on the three-month Treasury bill for the first time since 2007 (top chart), sparking fear of an imminent recession. In a recent [special report](#) we examined the recent inversion of the yield curve and what it suggests for economic growth—is it different this time?
- The degree of the recent inversion was insignificant relative to prior cycles. The curve inverted 17 months before the start of the Great Recession, and the spread fell to as much as -60 bps in early 2017. The curve would need to invert significantly and remain inverted for weeks, if not months, before it would be a reliable recession signal.
- There is also some question about the reliability of the yield curve as a recession predictor at present. The purchase of Treasury securities by the Fed as part of its quantitative easing program collapsed the term premium on longer-dated Treasury bonds (bottom chart). That means the yield on the 10-year Treasury is arguably lower than it otherwise would be.
- On an ominous note, every recession for the past 60 years has been preceded by an inverted yield curve. Every inverted yield curve, however, has not been followed by an imminent recession.
- The yield spread has since turned positive. We would need to see further sustained inversion along with generalized restriction in financial conditions in conjunction with deterioration in economic fundamentals before we become truly worried.



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

Wells Fargo U.S. Economic Forecast

	Actual								Forecast								Actual		Forecast	
	2017				2018				2019				2020				2017	2018	2019	2020
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Real Gross Domestic Product (a)	1.8	3.0	2.8	2.3	2.2	4.2	3.4	2.2	1.8	2.7	2.2	2.4	2.0	2.1	1.7	1.8	2.2	2.9	2.5	2.1
Personal Consumption	1.8	2.9	2.2	3.9	0.5	3.8	3.5	2.5	0.8	2.6	2.4	2.5	1.8	2.0	1.9	1.9	2.5	2.6	2.3	2.1
Business Fixed Investment	9.6	7.3	3.4	4.8	11.5	8.7	2.5	5.4	3.8	3.4	4.3	4.0	3.7	3.6	2.9	2.8	5.3	6.9	4.2	3.6
Equipment	9.1	9.7	9.8	9.9	8.5	4.6	3.4	6.6	1.3	2.1	3.9	3.1	2.7	2.6	2.1	2.0	6.1	7.4	3.3	2.7
Intellectual Property Products	8.0	6.6	1.7	0.7	14.1	10.5	5.6	10.7	7.3	5.3	4.7	4.6	4.7	4.6	3.7	3.5	4.6	7.5	7.0	4.5
Structures	12.8	3.8	-5.7	1.3	13.9	14.5	-3.4	-3.9	2.5	3.5	4.5	5.0	4.5	4.0	3.5	3.5	4.6	5.0	1.8	4.2
Residential Construction	11.1	-5.5	-0.5	11.1	-3.4	-1.3	-3.6	-4.7	1.8	2.0	2.0	1.5	1.5	1.5	1.0	1.0	3.3	-0.3	-0.3	1.5
Government Purchases	-0.8	0.0	-1.0	2.4	1.5	2.5	2.6	-0.4	2.7	3.8	1.7	1.0	0.7	0.7	0.3	0.1	-0.1	1.5	2.1	1.0
Net Exports	-845.5	-844.1	-845.9	-899.2	-902.4	-841.0	-949.7	-955.7	-954.9	-961.0	-965.0	-968.4	-964.9	-963.6	-966.9	-966.4	-858.7	-912.2	-962.3	-965.4
Pct. Point Contribution to GDP	-0.1	0.1	0.0	-0.9	0.0	1.2	-2.0	-0.1	0.0	-0.1	-0.1	-0.1	0.1	0.0	-0.1	0.0	-0.4	-0.3	-0.3	0.0
Inventory Change	-2.4	11.9	64.4	16.1	30.3	-36.8	89.8	96.8	110.0	100.0	86.0	82.0	80.0	80.0	80.0	80.0	22.5	45.0	94.5	80.0
Pct. Point Contribution to GDP	-0.8	0.2	1.0	-0.9	0.3	-1.2	2.3	0.1	0.3	-0.2	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3	-0.1
Nominal GDP (a)	3.9	4.2	4.8	5.1	4.3	7.6	4.9	4.1	2.6	5.5	4.3	4.4	4.2	4.3	3.6	3.7	4.2	5.2	4.3	4.2
Real Final Sales	2.6	2.8	1.8	3.2	1.9	5.4	1.0	2.1	1.8	2.9	2.6	2.4	2.1	2.1	1.7	1.8	2.2	2.7	2.3	2.2
Retail Sales (b)	4.9	4.1	4.3	5.7	4.8	5.7	5.7	3.4	2.4	1.6	1.6	2.6	4.0	4.4	4.4	3.8	4.7	4.9	2.0	4.1
Inflation Indicators (b)																				
PCE Deflator	2.0	1.6	1.6	1.8	1.9	2.2	2.2	1.9	1.5	1.7	1.8	1.9	2.2	2.1	2.0	2.0	1.8	2.0	1.7	2.1
"Core" PCE Deflator	1.8	1.6	1.5	1.6	1.7	1.9	2.0	1.9	1.8	1.7	1.8	1.9	2.0	2.1	2.0	2.0	1.6	1.9	1.8	2.0
Consumer Price Index	2.5	1.9	2.0	2.1	2.2	2.7	2.6	2.2	1.6	1.8	1.9	2.1	2.5	2.3	2.2	2.2	2.1	2.4	1.9	2.3
"Core" Consumer Price Index	2.1	1.8	1.7	1.8	1.9	2.2	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.2	2.1	1.8	2.1	2.2	2.2
Producer Price Index (Final Demand)	2.0	2.2	2.4	2.7	2.8	3.0	3.1	2.8	1.9	1.7	1.7	1.6	2.2	2.3	2.3	2.2	2.3	2.9	1.7	2.3
Employment Cost Index	2.4	2.4	2.5	2.6	2.7	2.8	2.8	2.9	2.9	3.1	3.1	3.3	3.3	3.3	3.3	3.3	2.5	2.8	3.1	3.3
Real Disposable Income (a)	4.5	2.2	2.2	2.3	4.4	1.8	2.6	4.3	3.1	3.3	3.1	3.0	2.9	2.8	2.7	2.5	2.6	2.9	3.2	2.9
Nominal Personal Income (b)	4.1	4.3	4.5	4.6	4.3	4.5	4.5	4.6	4.2	4.5	4.6	4.3	4.4	4.2	3.9	3.6	4.4	4.5	4.4	4.0
Industrial Production (a)	2.4	5.6	-0.8	7.5	2.3	4.6	5.2	3.7	0.8	2.1	1.2	2.0	0.5	0.7	0.7	0.1	2.3	3.9	2.5	1.0
Capacity Utilization	75.5	76.5	76.3	77.6	77.9	78.5	79.1	79.4	79.0	78.6	78.7	78.8	78.9	79.1	79.0	78.9	76.5	78.7	78.8	79.0
Corporate Profits Before Taxes (b)	3.0	3.6	2.8	3.3	5.9	7.3	10.4	7.4	4.4	4.5	6.7	6.2	3.5	1.0	-2.6	-1.0	3.2	7.8	5.5	0.1
Corporate Profits After Taxes	6.0	6.2	6.4	7.3	15.1	15.8	19.6	14.3	3.4	4.3	6.4	5.0	3.4	0.9	-2.9	-1.3	6.5	16.2	4.8	-0.1
Federal Budget Balance (c)	-317	4	-143	-225	-375	-7	-172	-319	-439	-29	-188	-301	-449	-66	-233	-315	-666	-779	-975	-1050
Trade Weighted Dollar Index (d)	94.0	90.5	88.1	87.5	86.3	90.0	90.1	91.8	92.1	92.0	91.3	90.8	89.5	89.3	88.3	87.5	91.1	89.0	91.5	88.6
Nonfarm Payroll Change (e)	173	190	136	218	228	243	189	233	180	170	160	160	150	140	100	90	179	223	168	120
Unemployment Rate	4.6	4.4	4.3	4.1	4.1	3.9	3.8	3.8	3.9	3.7	3.7	3.6	3.5	3.5	3.6	3.6	4.4	3.9	3.7	3.6
Housing Starts (f)	1.23	1.17	1.17	1.26	1.32	1.26	1.23	1.19	1.23	1.26	1.27	1.28	1.28	1.29	1.30	1.30	1.20	1.25	1.27	1.29
Light Vehicle Sales (g)	17.1	16.8	17.1	17.6	17.1	17.2	16.9	17.5	16.9	16.7	16.7	16.6	16.6	16.5	16.4	16.3	17.1	17.2	16.7	16.5
Crude Oil - Brent - Front Contract (h)	54.6	50.8	52.2	61.4	66.9	74.6	75.8	68.6	63.8	68.0	66.0	68.0	68.0	67.0	66.0	65.0	54.7	71.5	66.4	66.5
Quarter-End Interest Rates (i)																				
Federal Funds Target Rate	1.00	1.25	1.25	1.50	1.75	2.00	2.25	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.25	1.13	1.96	2.50	2.44
3 Month LIBOR	1.15	1.30	1.33	1.69	2.31	2.34	2.40	2.81	2.60	2.65	2.65	2.65	2.65	2.65	2.65	2.40	1.26	2.31	2.64	2.59
Prime Rate	4.00	4.25	4.25	4.50	4.75	5.00	5.25	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.25	4.13	4.96	5.50	5.44
Conventional Mortgage Rate	4.20	3.90	3.81	3.94	4.44	4.57	4.63	4.64	4.28	4.20	4.25	4.30	4.35	4.30	4.25	4.15	3.99	4.54	4.26	4.26
3 Month Bill	0.76	1.03	1.06	1.39	1.73	1.93	2.19	2.45	2.40	2.40	2.40	2.40	2.40	2.40	2.35	2.15	0.95	1.97	2.40	2.33
6 Month Bill	0.91	1.14	1.20	1.53	1.93	2.11	2.36	2.56	2.44	2.45	2.45	2.45	2.45	2.40	2.35	2.15	1.07	2.14	2.45	2.34
1 Year Bill	1.03	1.24	1.31	1.76	2.09	2.33	2.59	2.63	2.40	2.50	2.50	2.45	2.45	2.40	2.30	2.10	1.20	2.33	2.46	2.31
2 Year Note	1.27	1.38	1.47	1.89	2.27	2.52	2.81	2.48	2.27	2.45	2.45	2.40	2.40	2.30	2.20	2.05	1.40	2.53	2.39	2.24
5 Year Note	1.93	1.89	1.92	2.20	2.56	2.73	2.94	2.51	2.23	2.45	2.50	2.50	2.45	2.35	2.25	2.10	1.91	2.75	2.42	2.29
10 Year Note	2.40	2.31	2.33	2.40	2.74	2.85	3.05	2.69	2.41	2.60	2.65	2.70	2.75	2.70	2.65	2.55	2.33	2.91	2.59	2.66
30 Year Bond	3.02	2.84	2.86	2.74	2.97	2.98	3.19	3.02	2.81	2.95	3.00	3.05	3.10	3.10	3.05	3.00	2.89	3.11	2.95	3.06

Forecast as of: April 10, 2019

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 Major Currency Index, 1973=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 Last Monthly Macro Manual (March 13, 2019)

Changes to the Wells Fargo U.S. Economic Forecast

	Actual								Forecast								Actual		Forecast	
	2017				2018				2019				2020				2017	2018	2019	2020
	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	0.00	0.49	0.04	-0.04	-0.12	-0.27	0.00	-0.09	-0.09	0.00	0.00	0.12	-0.11
Personal Consumption	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.82	0.00	0.00	0.00	-0.39	0.00	-0.13	-0.13	0.00	0.00	-0.21	-0.12
Business Fixed Investment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.12	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00
Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.25	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	0.01
Intellectual Property Products	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
Structures	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
Residential Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.60	-0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	-0.04
Government Purchases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	-0.34	0.20	-0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.16	-0.03
Net Exports	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.4	25.9	26.3	26.7	27.0	27.3	27.6	27.9	0.0	0.0	26.1	27.5
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.14	0.01
Inventory Change	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	16.00	12.00	8.00	8.00	8.00	8.00	8.00	0.00	0.00	11.50	8.00
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.13	-0.08	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.06	-0.02
Nominal GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.22	-0.33	-0.31	-0.41	-0.08	-0.14	-0.13	0.00	0.00	0.13	-0.23
Real Final Sales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	-0.09	0.05	-0.03	-0.27	0.00	-0.09	-0.09	0.00	0.00	0.06	-0.09
Retail Sales (b)	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	0.10	0.00	0.00	0.00	0.03
Inflation Indicators (b)																				
PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.07	0.00	-0.05	-0.11	-0.17	-0.11	-0.07	0.00	0.00	0.01	-0.11
"Core" PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.02	-0.04	-0.05	-0.15	-0.16	-0.15	-0.15	0.00	0.00	-0.02	-0.16
Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05	-0.03	-0.09	-0.16	-0.21	-0.16	-0.13	0.00	0.00	-0.01	-0.16
"Core" Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.04	-0.05	-0.09	-0.07	-0.05	-0.06	0.00	0.00	-0.03	-0.07
Producer Price Index (Final Demand)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	-0.04	-0.09	-0.16	-0.17	-0.06	-0.01	0.00	0.00	0.00	-0.10
Employment Cost Index	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
Real Disposable Income (a)	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
Nominal Personal Income (b)	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
Industrial Production (a)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.53	-3.10	0.00	0.00	0.00	0.00	0.00	-0.71
Capacity Utilization	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
Corporate Profits Before Taxes (b)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	-2.11	0.01	1.12	0.00	0.00	0.00	0.00	0.00	0.00	-0.11	0.00
Corporate Profits After Taxes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	-2.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.40	0.00
Federal Budget Balance (c)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	3.78	3.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trade Weighted Dollar Index (d)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.18	-0.25	-0.25	0.00	-0.25	0.50	0.25	0.25	0.00	0.00	-0.17	0.19
Nonfarm Payroll Change (e)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.00
Unemployment 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	0.10	0.10	0.00	0.00	0.00	0.05
Housing Starts (f)	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
Light Vehicle Sales (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Crude Oil - Brent - Front Contract (h)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.31	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.83	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	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	0.00	0.00	-0.13	-0.25
3 Month LIBOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	0.00	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	0.00	0.00	-0.14	-0.25
Prime Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	0.00	0.00	-0.13	-0.25
Conventional Mortgage Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.12	-0.35	-0.40	-0.40	-0.35	-0.35	-0.40	-0.45	0.00	0.00	-0.32	-0.39
3 Month Bill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.05	-0.10	-0.30	-0.30	-0.30	-0.30	-0.35	-0.30	0.00	0.00	-0.19	-0.31
2 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.38	-0.25	-0.30	-0.35	-0.30	-0.35	-0.40	-0.45	0.00	0.00	-0.32	-0.38
5 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.42	-0.35	-0.35	-0.40	-0.45	-0.50	-0.55	-0.60	0.00	0.00	-0.38	-0.53
10 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.39	-0.35	-0.40	-0.40	-0.35	-0.35	-0.40	-0.45	0.00	0.00	-0.39	-0.39
30 Year Bond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.34	-0.35	-0.40	-0.40	-0.40	-0.35	-0.40	-0.40	0.00	0.00	-0.37	-0.39

Forecast as of: April 10, 2019

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 Major Currency Index, 1973=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		
	2018	2019	2020	2018	2019	2020
Global (PPP Weights)	3.7%	3.4%	3.3%	3.5%	3.4%	3.6%
Advanced Economies ¹	2.4%	1.9%	1.9%	2.2%	1.7%	2.1%
United States	2.9%	2.5%	2.1%	2.4%	1.9%	2.3%
Eurozone	1.8%	1.1%	1.4%	1.8%	1.3%	1.5%
United Kingdom	1.4%	1.3%	1.4%	2.5%	2.0%	2.0%
Japan	0.8%	0.8%	0.4%	1.0%	1.0%	1.5%
Canada	1.8%	1.7%	1.6%	2.3%	1.8%	2.0%
Developing Economies ¹	4.6%	4.4%	4.3%	4.4%	4.5%	4.6%
China	6.6%	6.2%	6.0%	2.1%	2.2%	2.3%
India	7.3%	6.9%	7.1%	3.9%	4.0%	4.5%
Mexico	2.0%	2.0%	1.8%	4.9%	4.1%	3.7%

Forecast as of: April 10, 2019

¹Aggregated Using PPP Weights

Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	3-Month LIBOR						10-Year Bond					
	2019			2020			2019			2020		
	Q2	Q3	Q4	Q1	Q2	Q3	Q2	Q3	Q4	Q1	Q2	Q3
U.S.	2.65%	2.65%	2.65%	2.65%	2.65%	2.65%	2.60%	2.65%	2.70%	2.75%	2.70%	2.65%
Japan	-0.08%	-0.08%	-0.08%	-0.08%	-0.08%	-0.08%	0.04%	0.08%	0.10%	0.13%	0.16%	0.16%
Euroland ¹	-0.35%	-0.35%	-0.35%	-0.15%	-0.15%	-0.05%	0.15%	0.25%	0.35%	0.45%	0.55%	0.65%
U.K.	0.90%	1.10%	1.15%	1.35%	1.40%	1.60%	1.45%	1.60%	1.70%	1.80%	1.85%	1.90%
Canada ²	2.05%	2.25%	2.30%	2.50%	2.50%	2.45%	1.85%	1.95%	2.10%	2.20%	2.20%	2.10%

Forecast as of: April 10, 2019

¹ 10-year German Government Bond Yield ² 3-Month Canada Bankers' Acceptances

Source: International Monetary Fund and Wells Fargo Securities

International Forecast: Change Since Last Monthly Macro Manual (March 13, 2019)

Changes to the Wells Fargo International Economic Forecast

	GDP			CPI		
	2018	2019	2020	2018	2019	2020
Global (PPP Weights)	0.00%	-0.03%	-0.03%	0.00%	0.02%	0.01%
Advanced Economies ¹	0.00%	-0.04%	-0.07%	0.00%	-0.04%	-0.08%
United States	-0.03%	0.09%	-0.06%	0.00%	-0.03%	-0.12%
Eurozone	0.00%	-0.20%	-0.05%	0.00%	-0.04%	-0.03%
United Kingdom	-0.01%	-0.16%	-0.18%	0.00%	-0.10%	-0.01%
Japan	0.08%	0.01%	-0.10%	0.00%	-0.03%	0.00%
Canada	0.00%	0.00%	0.00%	0.00%	0.04%	0.00%
Developing Economies ¹	0.00%	-0.02%	0.00%	0.00%	0.07%	0.08%
China	0.00%	0.00%	0.00%	0.00%	0.09%	0.00%
India ²	0.00%	0.00%	0.00%	0.00%	0.13%	0.40%
Mexico	0.00%	-0.18%	-0.03%	0.00%	0.00%	0.00%

Forecast as of: April 10, 2019

¹Aggregated Using PPP Weights

Changes to the Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	3-Month LIBOR						10-Year Bond					
	2019			2020			2019			2020		
	Q2	Q3	Q4	Q1	Q2	Q3	Q2	Q3	Q4	Q1	Q2	Q3
U.S.	0.00%	0.00%	-0.25%	-0.25%	-0.25%	-0.25%	-0.20%	-0.30%	-0.35%	-0.35%	-0.40%	-0.40%
Japan	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.02%	0.02%	0.00%	0.01%	0.01%	-0.02%
Euroland ¹	0.00%	0.00%	0.00%	0.20%	0.00%	0.10%	-0.05%	-0.05%	-0.05%	-0.10%	-0.10%	-0.10%
U.K.	0.05%	0.00%	0.05%	0.00%	0.05%	0.25%	0.05%	0.00%	0.00%	0.05%	0.05%	0.10%
Canada ²	0.00%	0.15%	0.05%	0.20%	0.00%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%	-0.10%	-0.20%

Forecast as of: April 10, 2019

¹ 10-year German Government Bond Yield ² 3-Month Canada Bankers' Acceptances

Source: International Monetary Fund and Wells Fargo Securities

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