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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

November 06, 2019

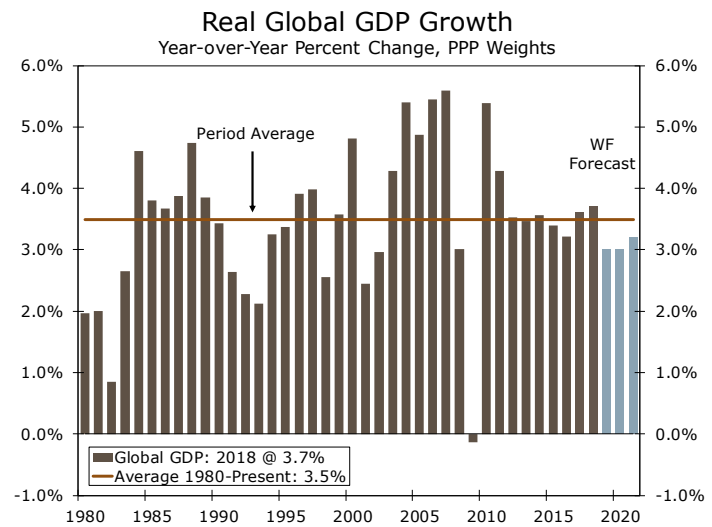
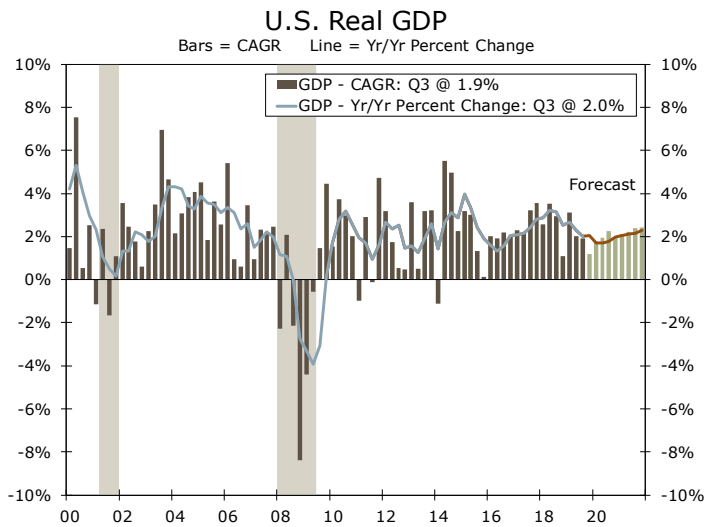
Together we'll go far



Key Takeaways

Developments since our October Monthly Economic Outlook

- Our forecast for U.S. real GDP growth over the next year remains largely unchanged. **We anticipate a relatively weak Q4-2019, with growth of just 1.2%. From there, we expect real GDP to accelerate gradually towards 2% growth over the course of 2020.** We expect some modest improvement in business fixed investment and residential investment growth, which should take some weight off the consumer.
- We still look for one more 25 bps cut by the Fed, most likely in January 2020. Our forecast continues to assume the December 15 tariffs on \$156B of U.S. imports from China go into effect as scheduled.** Should a “Phase I” trade deal that includes a delay/cancellation of these tariffs be reached, then the case for one more rate cut in Q1-2020 is not as compelling, in our view. **Our 2019 year-end forecast for the 10-year Treasury yield remains unchanged at 1.70%.** For 2020, our year-end forecast is also unchanged at 2.05%.
- Since our last *Monthly Economic Outlook*, we have made no material changes to our international forecast. **Our forecast for real global GDP growth remains largely unchanged, and we continue to expect rate cuts from the European Central Bank and the Bank of Canada in the fourth quarter.**



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

Monthly Macro Calendar: November 4-December 6

Monday	Tuesday	Wednesday	Thursday	Friday
4	5	6	7	8
Daly (San Francisco Fed) Speaks at NYU Center for Global Economy	Trade Balance September -\$52.5B JOLTs Job Openings September 7,024K ISM Non-manufacturing October 54.7	Nonfarm Productivity (CAGR) Q2 2.3%; Q3 1.6% (W) Evans* (Chicago Fed) Speaks at Council on Foreign Relations Williams* (New York Fed) Takes Part in Moderated Q&A in New York	Kaplan (Dallas Fed) Speaks in Dallas Bostic (Atlanta Fed) Speaks in New York on Monetary Policy Bank of England Rate Decision Previous 0.75%	Daly (San Francisco Fed) Speaks on Economics of Climate Change Williams* (New York Fed) Speaks on Global Financial Vulnerabilities Brainard* (Board of Governors) Speaks at Climate Change Conference
11	12	13	14	15
Veterans Day [U.S. Bond Markets Closed]	Harker (Philadelphia Fed) Speaks in New York Kashkari (Minneapolis Fed) Speaks in Madison, Wisconsin	Consumer Price Index (YoY) September 1.7%; October 1.7% (C) Kashkari (Minneapolis Fed) Speaks in La Crosse, Wisconsin U.K. CPI (YoY) September 1.7%	PPI Final Demand (YoY) September 1.4% Clarida* (Board of Governors) Speaks at Cato Institute in Washington Williams* (New York Fed) Speaks at Economic Policy Conference	Import Price Index (YoY) September -1.6% Retail Sales (MoM) September -0.3%; October 0.1% (C) Industrial Production (MoM) September -0.4%; October -0.3% (C)
18	19	20	21	22
	Housing Starts September 1,256K	Canada CPI (YoY) September 1.9% FOMC Meeting Minutes	Existing Home Sales September 5.38M; October 5.50M (C) Kashkari (Minneapolis Fed) Speaks in Bloomington, Minnesota Federal Government Funding Runs Out	
25	26	27	28	29
	Consumer Confidence October 125.9	Durable Goods Orders (MoM) September -1.2% Personal Income & Spending (MoM) September 0.3% & 0.2% U.S. Federal Reserve Beige Book	Thanksgiving Day [U.S. Markets Closed]	Eurozone CPI (YoY) October 0.7%
2	3	4	5	6
ISM Manufacturing Index October 48.3 Reserve Bank of Australia Rate Decision Previous 0.75% FOMC Blackout Period Begins		ISM Non-Manufacturing Index October 54.7 Bank of Canada Rate Decision Previous 1.75%	Trade Balance September -\$52.5B Reserve Bank of India Rate Decision Previous 4.0% (Cash Reserve Ratio)	Nonfarm Payrolls October 128K

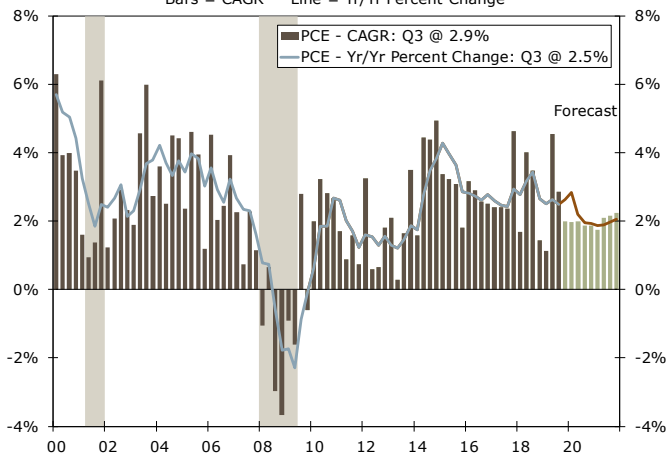
Note: (W) = Wells Fargo Estimate, (C) = Consensus Estimate, * = voting FOMC member in 2019

Source: Bloomberg LP and Wells Fargo Securities

- Real GDP growth forecast for Q4-2019: 1.2% (seasonally adjusted annualized rate)
 - Change since last *Monthly Economic Outlook*: -0.2 percentage point
 - Led largely by consumer spending, real GDP grew at a 1.9% annualized pace in Q3. **We expect growth to slow further in Q4, although some of this weakness will likely be due to a quirky slowdown in the pace of inventory building.** We expect consumer spending growth to remain solid, but the pace achieved in the last couple quarters is likely not sustainable. We anticipate that some slowdown in consumer spending growth will be partially offset by green shoots of growth in business fixed investment and residential construction.
- Real GDP growth forecast for full-year 2020: 1.8% (year-over-year percent change)
 - Change since last *Monthly Economic Outlook*: +0.1 percentage point
 - We expect real GDP to accelerate gradually towards 2% growth over the course of 2020.** Boeing's 737 MAX safety issues look to be resolved and approved by the start of 2020. As shipments of the jetliner resume, equipment spending should get a slight boost. **Progress on resolving trade disputes and uncertainty, should it occur, would be a source of upside to our forecast, most likely in the form of stronger business fixed investment growth.** Residential construction should also continue to be supported by lower mortgage rates.

Real Personal Consumption Expenditures

Bars = CAGR Line = Yr/Yr Percent Change



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

Key Themes and Upside/Downside Scenarios

- Upside scenario:** Trade uncertainty across the globe dissipates after a U.S.-China deal is reached and the USMCA is passed. The global economy finds firmer footing and U.S. investment spending accelerates. Inflation returns to the 2% target and periodically exceeds it for brief periods of time.
- Downside scenario:** The trade war escalates further, and the lagged effect of recent tariff actions weighs on economic growth domestically and abroad. Uncertainty continues to have both direct and indirect negative effects on the economy, and the slowest pace of global growth since 2009 pulls the United States down with it.

Inflation Forecast

- Inflation remains tame. We expect the impact on inflation of dimmer prospects for U.S. growth will be partially offset by the temporary boost from tariffs. **We still expect inflation to move back up to the Fed's 2% target early next year, but we do not expect it to break meaningfully higher from there, and it may even dip back below 2% in 2021 as the temporary boost from tariffs fades.**

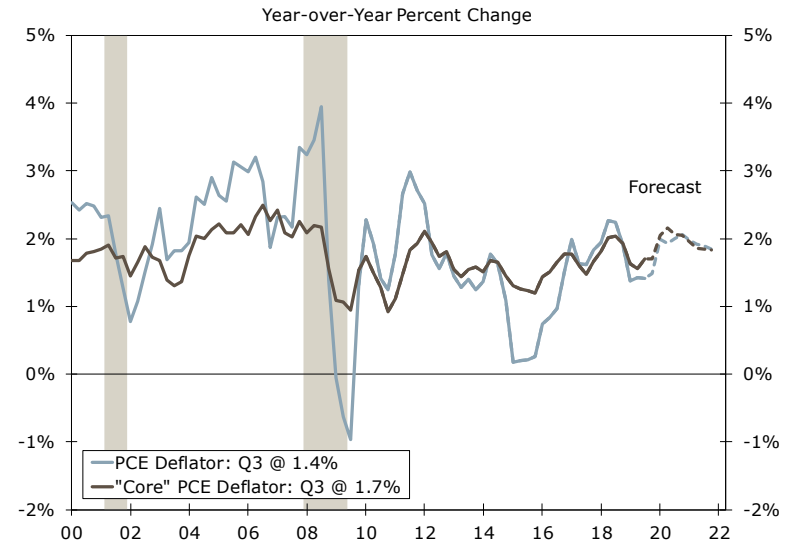
Labor Market Forecast

- **Nonfarm payroll growth averaged 188K in Q3, and we expect it to slow to an average of 143K in Q4.**
- We continue to expect wage growth of roughly 3%.

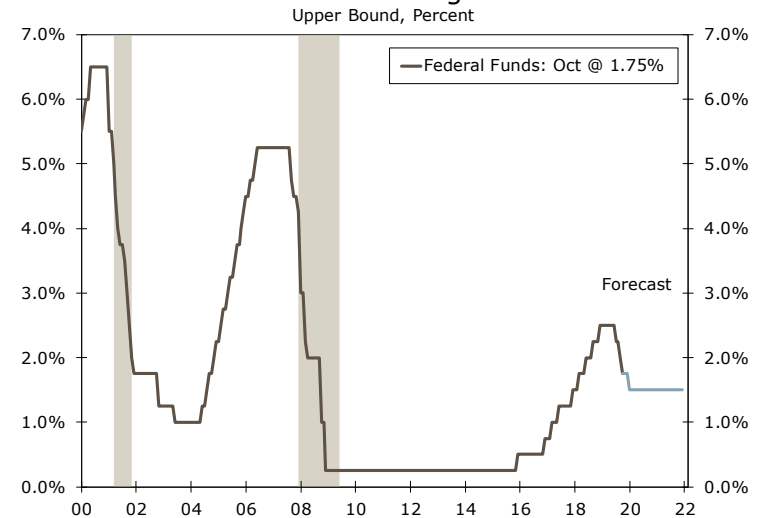
Fed Funds Outlook

- Fed Funds Forecast for 2019
 - **No change**
 - We expect the Fed will keep rates steady at 1.50-1.75% at the December FOMC meeting. Having cut rates 75 bps since July, we think the Fed will remain on hold and await further clarity on the December 15 scheduled tariffs and the U.K. general election.
- Fed Funds Forecast for 2020
 - **One 25 bps cut in Q1-2020, likely January 2020**
 - In the absence of a breakthrough on U.S.-China trade relations and with growth slowing further in Q4, we expect the Fed to ease policy another 25 bps in Q1-2020.

PCE Deflator & "Core" PCE Deflator



Federal Funds Target Rate



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

U.S. Interest Rate Outlook

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	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3 Month LIBOR	2.31	2.34	2.40	2.81	2.60	2.32	2.09	1.80	1.60	1.60	1.60	1.60	1.65	1.60	1.60	1.60
Prime Rate	4.75	5.00	5.25	5.50	5.50	5.50	5.00	4.75	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Conventional Mortgage Rate	4.44	4.57	4.63	4.64	4.28	3.80	3.61	3.55	3.50	3.55	3.65	3.75	3.80	3.90	3.95	4.00
3 Month Bill	1.73	1.93	2.19	2.45	2.40	2.12	1.88	1.55	1.40	1.40	1.40	1.40	1.45	1.40	1.40	1.40
6 Month Bill	1.93	2.11	2.36	2.56	2.44	2.09	1.83	1.55	1.45	1.45	1.45	1.45	1.50	1.45	1.45	1.45
1 Year Bill	2.09	2.33	2.59	2.63	2.40	1.92	1.75	1.55	1.50	1.55	1.55	1.60	1.60	1.60	1.65	1.65
2 Year Note	2.27	2.52	2.81	2.48	2.27	1.75	1.63	1.60	1.60	1.65	1.65	1.70	1.75	1.75	1.80	1.80
5 Year Note	2.56	2.73	2.94	2.51	2.23	1.76	1.55	1.55	1.60	1.70	1.75	1.80	1.90	1.95	2.00	2.00
10 Year Note	2.74	2.85	3.05	2.69	2.41	2.00	1.68	1.70	1.75	1.85	1.95	2.05	2.10	2.20	2.25	2.30
30 Year Bond	2.97	2.98	3.19	3.02	2.81	2.52	2.12	2.20	2.30	2.45	2.55	2.65	2.75	2.80	2.85	2.90

Forecast as of: November 06, 2019

Source: Federal Reserve Board and Wells Fargo Securities

What Are We Watching in the Month Ahead?

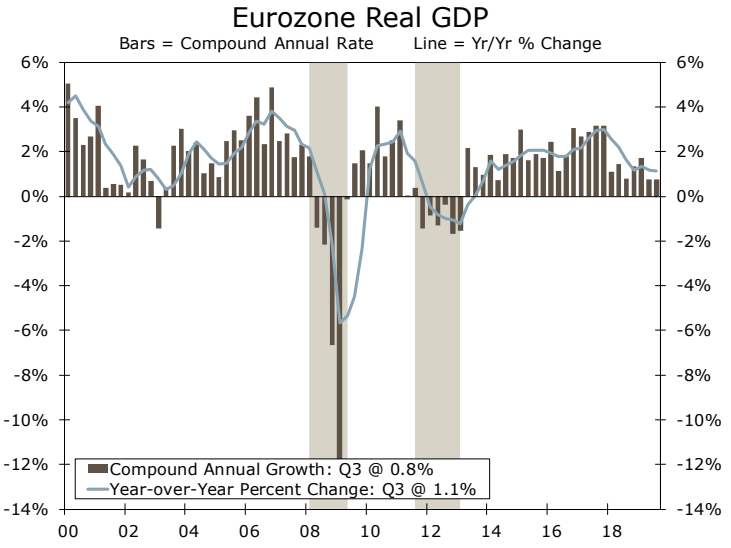
- Trade policy leads the way into year-end
 - Our forecast continues to assume the December 15 tariffs on \$156 billion of U.S. imports from China go into effect as scheduled. **Should a “Phase I” trade deal that includes a delay/cancellation of these tariffs be signed, this would give us less reason to believe the Fed will cut rates once more in Q1-2020.**
- Overseas monetary policy keeping a lid on U.S. rates
 - Even if the Fed ends up easing less than we expect, extraordinarily easy monetary policy abroad will likely prevent Treasury yields from rising too much. **Foreign economies, especially in Europe, need to improve before we see materially higher rates in the United States.**
- The Fed’s balance sheet returns to growth: but what comes next?
 - **The Fed has once again resumed balance sheet growth via Treasury bill purchases.** But questions still remain: Will the Fed taper its purchases at some point before April? Will the purchases prevent repo rates from spiking dramatically at year-end? And will the Fed expand its purchases to other short-dated coupon securities?
 - We believe the answers are yes, yes and maybe, respectively, as we laid out in two [recent reports](#).

Eurozone Economy Stuck in Neutral

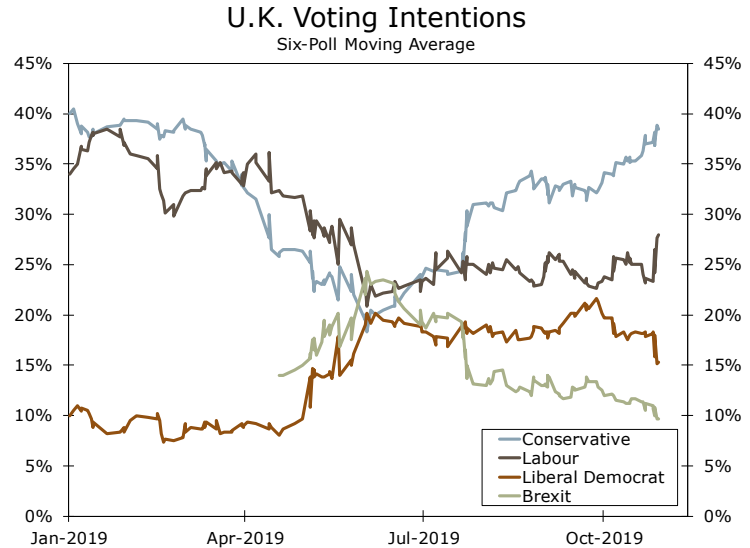
- Real GDP growth in Europe remains stuck in neutral, having been between 1.1% and 1.4% on a year-over-year basis for four quarters in a row. While these growth rates are weak, they are not negative or even zero, likely explaining some of the pause lawmakers have shown when considering a large scale fiscal stimulus.
- Our expectation is that Eurozone real GDP growth will gradually start to pick up by H2-2020. Should the economy decelerate further, it would not surprise us to see a more serious discussion about fiscal stimulus to boost aggregate demand.

U.K. General Election on December 12

- The United Kingdom's deadline to leave the European Union has once again been delayed, this time to January 31, 2020. On December 12, U.K. citizens will head to the polls for a general election, with the outcome possibly providing the majority necessary to break the Brexit gridlock in Parliament.
- If the election were held today, polls suggest the Conservative Party would win by a healthy margin and probably gain an outright majority in the U.K. Parliament. We examined the prospects of a couple different Brexit/U.K. election scenarios in a recent special [report](#).



Source: IHS Markit, Various Polling Sources 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)	1.75	October 2019 25 bps cut	Next Rate Move: Cut in Q1-2020 (25 bps)
Eurozone (ECB)	-0.50 (Deposit Rate)	September 2019 10 bps cut, restart of asset purchases in November 20 billion euros per month with an open ended timeframe	Next Rate Move: Cut in Q4-2019 (10 bps)
United Kingdom (BoE)	0.75	August 2018 25 bps hike	No change through Q1-2021
Japan (BoJ)	-0.10	July 2018 QQE and a greater degree of variation in 10-year govt. bond yield target	No change through Q1-2021
Canada (BoC)	1.75	October 2018 25 bps hike	Next Rate Move: Cut in Q4-2019 (25 bps)

Forecast as of: November 06, 2019

Source: Bloomberg LP and Wells Fargo Securities

What Are We Watching in the Month Ahead?

- European Central Bank
 - With core inflation remaining stagnant, inflation expectations down and the Eurozone economy still showing little evidence of an imminent rebound, **we look for another 10 bps rate cut in December from the ECB.**
- Bank of Japan
 - **We do not expect the BoJ to make any material changes to monetary policy for the foreseeable future.** That said, the balance of risks has gradually become tilted towards additional easing. Should it occur, we believe this easing would most likely come by pushing policy rates deeper into negative territory.
- Bank of England
 - With Brexit uncertainty likely to linger for an extended period of time and other major central banks taking a dovish turn, **we expect the BoE to keep interest rates on hold through the end of 2020.**
- Bank of Canada
 - **We look for the BoC to cut rates 25 bps in Q4-2019.** Although the Canadian economy has strengthened some, we think a more dovish Fed and weak global growth environment will lead the BoC to cut rates once.

Mexico Flirting with Recession

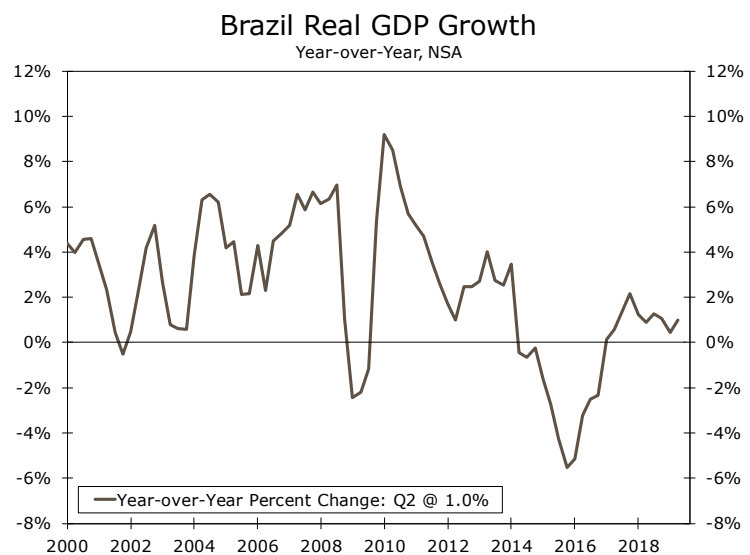
- Q3 real GDP growth in Mexico remained negative on a year-over-year basis. One of the key challenges in Mexico has been the deterioration of both the sovereign's and Pemex's credit ratings. As a result, **significantly easing fiscal policy in Mexico to combat the slowdown could do more harm than good.** The Bank of Mexico has cut rates 25 bps twice this year, and we think more cuts are on the way. Markets are priced for about another 175 bps of easing over the next year, and **our currency strategy team expects the Mexican peso to depreciate modestly against the U.S. dollar over that time horizon.**

Brazilian Economic Growth also Weak

- GDP growth in Brazil is not much better, particularly given how weak the recovery has been from the 2014-2017 recession. That said, growth has at least remained positive, and there are some reasons to be optimistic about the future. **Recent reforms to Brazil's notoriously thorny pension system should help improve its public finances.** Furthermore, given the tumultuous political situations across Latin America right now, Brazil's ability to achieve major legislative reforms is an encouraging sign. Our currency strategy team expects the Brazilian real to strengthen against the dollar over the next year.

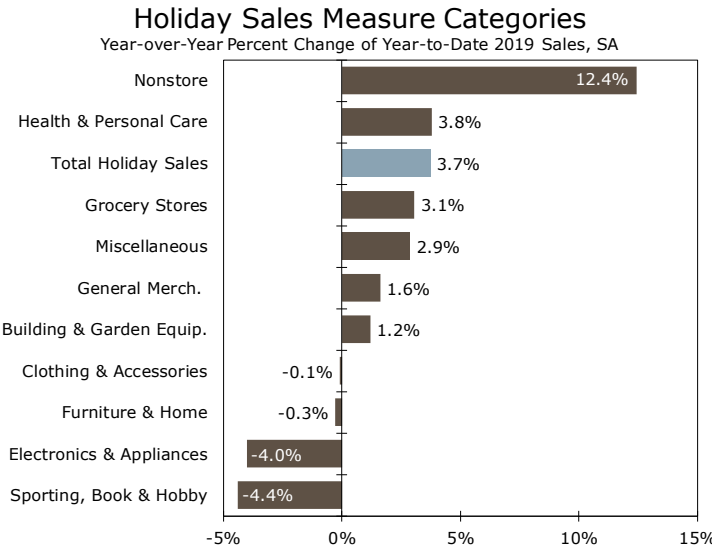
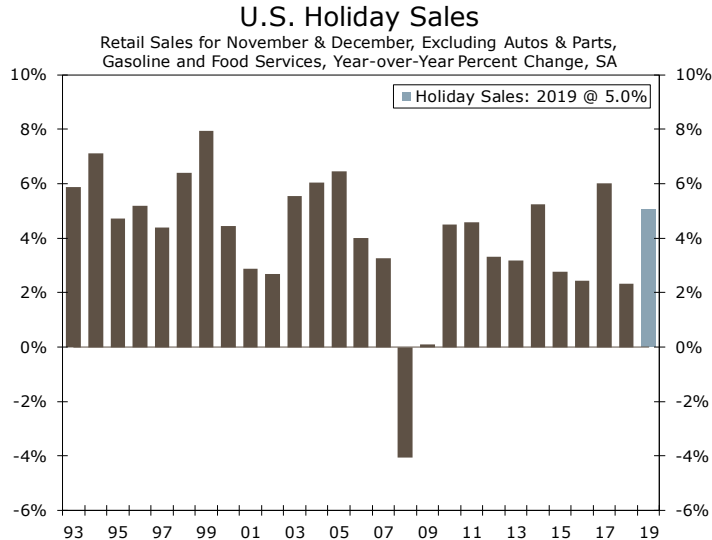


Source: IHS Markit and Wells Fargo Securities



Holiday Sales Outlook

- The “official” holiday shopping season starts on Black Friday—the day after Thanksgiving—but November marks the start of the two most crucial months of the year for most retailers.
- **We expect holiday sales, which we define as total retail sales less sales at auto dealers, gasoline stations and restaurants, to rise 5% compared to last year** (top chart).
- That’s a pretty sizeable gain, especially when you consider it is roughly a full percentage point ahead of the average annual increase for the expansion.
- The weak outturn in 2018 admittedly flatters the year-over-year comparisons for 2019 holiday sales. But still, consumers are positioned to spend. **Compared to last year, our measure of holiday sales is up 3.7% on a year-to-date basis through September**, with nonstore retailers the notable standout (bottom chart).
- For the first holiday season ever, nonstore retailers—of which roughly 90% is tied to online retail—will likely surpass grocery and general merchandize stores, as the largest share of holiday spending.
- The trade war remains one of the largest risks to the outlook and has only escalated since last year. **But the expansion of the trade war into consumer goods was timed to avoid impacting holiday spending, and we suspect that plan has worked thus far.**
- For further reading on this subject, see our recent special report, [“Holiday Sales Outlook”](#).



Source: U.S. Department of Commerce 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	1.9	1.2	1.7	1.9	2.2	1.9	2.1	2.2	2.4	2.4	2.9	2.3	1.8	2.2	
Personal Consumption	1.7	4.0	3.5	1.4	1.1	4.6	2.9	2.0	2.0	2.0	1.9	1.9	1.8	2.1	2.2	2.2	3.0	2.6	2.2	1.9	
Business Fixed Investment	8.8	7.9	2.1	4.8	4.4	-1.0	-3.0	3.4	2.6	1.8	3.5	3.5	4.0	3.9	3.9	3.8	6.4	2.4	1.8	3.7	
Equipment	6.6	3.4	2.9	7.4	-0.1	0.8	-3.8	-0.1	0.9	-0.5	2.1	2.1	3.4	3.4	3.2	3.0	6.8	1.5	0.1	2.7	
Intellectual Property Products	9.7	11.9	4.1	11.7	10.8	3.6	6.6	6.1	4.9	4.2	5.7	6.0	5.9	5.5	5.6	5.7	7.4	8.0	5.3	5.7	
Structures	12.1	11.0	-2.1	-9.0	4.0	-11.1	-15.3	0.5	2.5	3.0	2.5	2.0	1.8	1.9	2.0	2.1	4.1	-4.5	-1.2	2.1	
Residential Construction	-5.3	-3.7	-4.0	-4.7	-1.0	-3.0	5.1	4.5	3.5	4.0	4.0	4.0	4.0	4.5	4.5	4.0	-1.5	-1.6	3.7	4.2	
Government Purchases	1.9	2.6	2.1	-0.4	2.9	4.8	2.0	0.4	0.7	1.4	1.1	0.8	0.8	0.8	0.7	0.7	1.7	2.2	1.2	0.9	
Net Exports	-884.2	-850.5	-962.4	-983.0	-944.0	-980.7	-986.4	-992.7	-992.3	-991.3	-1001.2	-1018.2	-1026.2	-1032.7	-1030.4	-1029.4	-920.0	-975.9	-1000.8	-1029.6	
Pct. Point Contribution to GDP	0.0	0.7	-2.1	-0.4	0.7	-0.7	-0.1	-0.1	0.0	0.0	-0.2	-0.3	-0.2	-0.1	0.0	0.0	-0.4	-0.3	-0.1	-0.1	
Inventory Change	40.5	-28.0	87.2	93.0	116.0	69.4	69.0	42.0	30.0	25.0	40.0	50.0	59.0	60.0	60.0	60.0	48.1	74.1	36.3	59.8	
Pct. Point Contribution to GDP	0.1	-1.2	2.1	0.1	0.5	-0.9	-0.1	-0.6	-0.3	-0.1	0.3	0.2	0.2	0.0	0.0	0.0	0.1	0.1	-0.2	0.1	
Nominal GDP (a)	5.0	7.1	4.8	2.9	3.9	4.7	3.5	2.9	4.2	4.1	4.1	3.8	4.2	4.1	4.2	4.1	5.4	4.0	3.9	4.1	
Real Final Sales	2.4	4.8	0.8	1.0	2.6	3.0	2.0	2.1	2.0	2.1	1.9	1.7	1.9	2.2	2.4	2.4	2.8	2.2	2.1	2.0	
Retail Sales (b)	4.7	5.7	5.5	3.4	2.8	3.4	4.0	4.2	4.2	3.1	2.7	2.9	3.0	3.1	2.9	3.0	4.8	3.6	3.2	3.0	
Inflation Indicators (b)																					
PCE Deflator	1.9	2.3	2.2	1.9	1.4	1.4	1.4	1.5	2.0	1.9	2.0	2.1	2.0	1.9	1.9	1.8	2.1	1.4	2.0	1.9	
"Core" PCE Deflator	1.8	2.0	2.0	1.9	1.6	1.6	1.7	1.7	2.0	2.2	2.1	2.1	2.0	1.9	1.8	1.8	2.0	1.6	2.1	1.9	
Consumer Price Index	2.2	2.7	2.6	2.2	1.6	1.8	1.8	1.8	2.2	2.0	2.1	2.3	2.2	2.2	2.2	2.1	2.4	1.7	2.2	2.2	
"Core" Consumer Price Index	1.9	2.2	2.2	2.2	2.1	2.1	2.3	2.3	2.4	2.5	2.3	2.3	2.1	2.1	2.0	2.1	2.1	2.2	2.4	2.1	
Producer Price Index (Final Demand)	2.8	3.0	3.1	2.8	1.9	2.1	1.6	1.1	1.8	1.5	2.0	2.4	2.3	2.2	2.2	2.2	2.9	1.7	1.9	2.2	
Employment Cost Index	2.7	2.8	2.8	2.9	2.8	2.7	2.8	2.8	2.9	3.0	3.0	3.0	3.1	3.1	3.1	3.1	2.8	2.8	3.0	3.1	
Real Disposable Income (b)	3.9	3.9	4.1	3.9	3.3	3.2	3.2	2.9	2.3	3.1	2.4	2.1	2.0	1.5	2.0	2.2	4.0	3.1	2.5	1.9	
Nominal Personal Income (b)	5.6	5.8	5.9	4.9	4.6	4.9	4.7	4.6	4.3	4.9	4.4	4.2	4.1	3.5	3.9	4.1	5.6	4.7	4.4	3.9	
Industrial Production (a)	2.3	4.6	5.2	3.9	-1.9	-2.2	1.2	0.2	1.1	0.7	1.3	2.0	1.2	1.8	1.9	1.3	3.9	0.9	0.8	1.5	
Capacity Utilization	77.9	78.5	79.1	79.4	78.6	77.8	77.6	77.2	76.8	77.1	77.5	78.0	78.3	78.6	78.9	79.2	78.7	77.8	77.3	78.8	
Corporate Profits Before Taxes (b)	2.9	2.4	4.2	4.2	-2.2	1.3	0.5	3.2	3.8	1.9	2.8	0.6	1.5	2.8	3.0	2.5	3.4	0.7	2.3	2.5	
Corporate Profits After Taxes	10.3	8.3	11.3	10.1	-2.9	1.3	0.6	2.8	3.6	1.8	2.8	0.6	1.5	2.7	2.9	2.4	10.0	0.4	2.2	2.4	
Federal Budget Balance (c)	-375	-7	-172	-319	-372	-56	-237	-316	-428	-63	-244	-331	-448	-66	-255	-359	-779	-984	-1050	-1100	
Trade Weighted Dollar Index (d)	103.1	107.3	107.6	110.1	109.8	109.7	111.0	110.0	109.5	109.0	108.0	107.3	106.0	105.5	105.0	104.5	106.4	110.1	108.4	105.3	
Nonfarm Payroll Change (e)	228	243	189	233	174	152	188	143	170	395	-115	0	100	105	110	110	223	164	113	106	
Unemployment Rate	4.1	3.9	3.8	3.8	3.9	3.6	3.6	3.6	3.6	3.5	3.6	3.7	3.7	3.7	3.7	3.7	3.9	3.7	3.6	3.7	
Housing Starts (f)	1.32	1.26	1.23	1.19	1.21	1.26	1.28	1.28	1.26	1.27	1.27	1.28	1.28	1.28	1.28	1.28	1.25	1.26	1.29	1.30	
Light Vehicle Sales (g)	17.1	17.3	17.0	17.4	16.8	17.0	17.0	16.7	16.5	16.4	16.4	16.4	16.4	16.4	16.4	16.4	17.2	16.9	16.4	16.4	
Crude Oil - Brent - Front Contract (h)	66.9	74.6	75.8	68.6	63.8	67.6	61.5	58.0	56.0	57.0	59.0	59.0	59.0	59.0	59.0	59.0	71.5	62.7	57.8	59.0	
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	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.96	2.19	1.50	1.50	
3 Month LIBOR	2.31	2.34	2.40	2.81	2.60	2.32	2.09	1.80	1.60	1.60	1.60	1.60	1.65	1.60	1.60	1.60	2.31	2.20	1.60	1.61	
Prime Rate	4.75	5.00	5.25	5.50	5.50	5.50	5.00	4.75	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.96	5.19	4.50	4.50	
Conventional Mortgage Rate	4.44	4.57	4.63	4.64	4.28	3.80	3.61	3.55	3.50	3.55	3.65	3.75	3.80	3.90	3.95	4.00	4.54	3.81	3.61	3.91	
3 Month Bill	1.73	1.93	2.19	2.45	2.40	2.12	1.88	1.55	1.40	1.40	1.40	1.40	1.45	1.40	1.40	1.40	1.97	1.99	1.40	1.41	
6 Month Bill	1.93	2.11	2.36	2.56	2.44	2.09	1.83	1.55	1.45	1.45	1.45	1.45	1.50	1.45	1.45	1.45	2.14	1.98	1.45	1.46	
1 Year Bill	2.09	2.33	2.59	2.63	2.40	1.92	1.75	1.55	1.50	1.55	1.55	1.60	1.60	1.60	1.65	1.65	2.33	1.91	1.55	1.63	
2 Year Note	2.27	2.52	2.81	2.48	2.27	1.75	1.63	1.60	1.60	1.65	1.65	1.70	1.75	1.75	1.80	1.80	2.53	1.81	1.65	1.78	
5 Year Note	2.56	2.73	2.94	2.51	2.23	1.76	1.55	1.55	1.60	1.70	1.75	1.80	1.90	1.95	2.00	2.00	2.75	1.77	1.71	1.96	
10 Year Note	2.74	2.85	3.05	2.69	2.41	2.00	1.68	1.70	1.75	1.85	1.95	2.05	2.10	2.20	2.25	2.30	2.91	1.95	1.90	2.21	
30 Year Bond	2.97	2.98	3.19	3.02	2.81	2.52	2.12	2.20	2.30	2.45	2.55	2.65	2.75	2.80	2.85	2.90	3.11	2.41	2.49	2.83	

Forecast as of: November 06, 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 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 October 9, 2019

Changes to the Wells Fargo U.S. Economic Forecast

	Actual																Forecast				Actual 2018	Forecast		
	2018				2019				2020				2021				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	0.55	-0.20	0.06	0.20	0.08	0.16	0.07	0.08	0.08	0.07	0.00	0.06	0.10	0.10				
Personal Consumption	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.07	0.00				
Business Fixed Investment	0.00	0.00	0.00	0.00	0.00	0.00	-2.57	2.80	-0.50	-0.19	0.22	-0.20	-0.17	-0.22	-0.18	-0.18	0.00	-0.16	0.05	-0.14				
Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.12	2.69	-0.70	0.00	0.88	0.03	0.02	0.01	0.01	0.01	0.00	0.19	0.47	0.12				
Intellectual Property Products	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1.05	-0.50	-0.52	-0.52	-0.50	-0.50	-0.64	-0.50	-0.50	0.00	0.11	-0.09	-0.53				
Structures	0.00	0.00	0.00	0.00	0.00	0.00	-7.80	0.00	0.00	0.00	0.00	-0.20	0.00	0.00	0.00	0.00	0.00	-1.03	-1.13	-0.04				
Residential Construction	0.00	0.00	0.00	0.00	0.00	0.00	1.57	2.50	1.50	2.50	2.50	2.50	3.00	3.50	3.50	3.00	0.00	0.34	1.97	2.97				
Government Purchases	0.00	0.00	0.00	0.00	0.00	0.00	0.75	-0.52	-0.48	0.39	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.06	-0.03	0.05				
Net Exports	0.0	0.0	0.0	0.0	0.0	0.0	9.7	8.3	-6.7	2.1	4.0	4.1	4.1	4.1	4.1	4.1	0.0	4.5	0.9	4.1				
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.24	-0.03	-0.31	0.18	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.02	0.02				
Inventory Change	0.00	0.00	0.00	0.00	0.00	0.00	4.02	-18.00	5.00	0.00	-5.00	0.00	0.00	0.00	0.00	0.00	0.00	-3.49	0.00	0.00				
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.04	-0.46	0.48	-0.10	-0.10	0.10	0.00	0.00	0.00	0.00	0.00	-0.02	0.02	0.00				
Nominal GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.41	-0.39	0.17	0.20	0.08	0.16	0.07	0.08	0.08	0.07	0.00	0.03	0.08	0.10				
Real Final Sales	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.60	-0.43	0.30	0.18	0.05	0.07	0.08	0.08	0.07	0.00	0.05	0.11	0.10				
Retail Sales (b)	0.00	0.00	0.00	0.00	0.00	0.00	-0.09	-0.48	-0.52	-0.51	-0.41	-0.03	0.00	0.00	0.00	0.00	0.00	-0.14	-0.36	0.00				
Inflation Indicators (b)																								
PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.00	-0.06	-0.11	-0.09	-0.09	-0.03	0.03	0.00	0.00	0.00	0.00	0.00	-0.04	-0.04	0.00				
"Core" PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.04	-0.03	-0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	0.00				
Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.08	-0.08	-0.08	-0.05	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.05	0.00				
"Core" Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.02	-0.02	-0.01	-0.01	-0.03	0.01	0.00	0.00	0.00	0.00	0.00	-0.02	0.00				
Producer Price Index (Final Demand)	0.00	0.00	0.00	0.00	0.00	0.09	-0.15	-0.44	-0.45	-0.53	-0.30	0.00	0.00	0.00	0.00	0.00	0.00	-0.13	-0.32	0.00				
Employment Cost Index	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.01	0.16	0.01	0.00	-0.02	-0.05	-0.06	-0.06	0.00	0.00	0.00	0.04	-0.04				
Real Disposable Income (b)																								
Nominal Personal Income (b)	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.14	0.27	0.37	0.63	0.95	0.57	1.02	0.63	0.15	0.00	0.06	0.56	0.59				
Industrial Production (a)	0.00	0.00	0.00	0.00	0.00	-0.05	0.40	0.20	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.38	0.00				
Capacity Utilization	0.00	0.00	0.00	0.00	0.00	-0.01	-0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00				
Corporate Profits Before Taxes (b)	0.00	0.00	0.00	0.00	0.00	0.00	-3.00	1.12	0.80	0.51	3.96	-0.89	-0.62	0.82	0.00	1.00	0.00	-0.48	1.11	0.31				
Corporate Profits After Taxes	0.00	0.00	0.00	0.00	0.00	0.00	-3.00	1.12	0.80	0.44	3.96	-0.89	-0.62	0.82	0.00	1.00	0.00	-0.48	1.09	0.30				
Federal Budget Balance (c)	0.00	0.00	0.00	0.00	0.00	0.00	-34.39	-16.11	18.44	7.78	-10.10	-16.85	19.29	8.13	-10.57	-17.87	0.00	-34.39	0.00	0.00				
Trade Weighted Dollar Index (d)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.50	-1.00	-0.25	0.00	0.00	-0.50	-0.50	-0.50	-0.50	0.00	-0.13	-0.31	-0.50				
Nonfarm Payroll Change (e)	0.00	0.00	0.00	0.00	0.00	0.00	31.67	12.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.08	0.00	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	0.00	0.00	0.00	0.00	0.00	0.00				
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	0.01	0.01	0.02				
Light Vehicle Sales (g)	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00	0.00				
Crude Oil - Brent - Front Contract (h)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	-2.00	0.00	-0.50	-2.00	-2.00				
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	-0.10	-0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	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	0.20	0.10	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.05	0.06	0.05				
3 Month Bill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.15	-0.10	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	0.00	-0.04	-0.06	-0.05				
2 Year Note	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	-0.05				
5 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.01	0.05	-0.05				
10 Year Note	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				
30 Year Bond	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	0.05				

Forecast as of: November 06, 2019

Notes: (a) Compound Annual Growth Rate (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

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%	3.0%	3.2%	3.6%	3.3%	3.4%	3.4%
Advanced Economies ¹	2.3%	1.9%	1.6%	2.0%	2.0%	1.5%	1.9%	1.9%
United States	2.9%	2.3%	1.8%	2.2%	2.4%	1.7%	2.2%	2.2%
Eurozone	1.9%	1.1%	1.0%	1.4%	1.8%	1.2%	1.3%	1.5%
United Kingdom	1.4%	1.3%	1.1%	1.5%	2.5%	1.9%	1.8%	2.0%
Japan	0.8%	1.0%	0.4%	1.1%	1.0%	0.5%	1.2%	1.0%
Canada	1.9%	1.6%	1.7%	1.8%	2.3%	1.9%	2.0%	2.0%
Developing Economies ¹	4.5%	3.8%	4.0%	4.1%	4.8%	4.5%	4.6%	4.4%
China	6.6%	6.1%	5.8%	5.6%	2.1%	2.6%	2.6%	2.2%
India	7.4%	5.5%	6.6%	6.7%	3.9%	3.2%	3.8%	4.0%
Mexico	2.0%	0.2%	1.1%	1.8%	4.9%	3.6%	3.6%	3.5%

Forecast as of: November 06, 2019

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)	0.01%	0.01%	0.06%	-0.03%	-0.02%	-0.02%	0.00%	0.01%
Advanced Economies ¹	0.05%	0.06%	0.04%	0.07%	0.00%	-0.07%	-0.08%	0.02%
United States	0.00%	0.06%	0.10%	0.00%	0.00%	-0.07%	0.00%	0.00%
Eurozone	-0.04%	0.07%	0.02%	0.00%	0.00%	-0.03%	0.00%	0.00%
United Kingdom	0.00%	0.00%	0.01%	0.00%	0.00%	-0.05%	0.00%	0.00%
Japan	0.00%	0.10%	-0.01%	0.00%	0.00%	-0.10%	0.00%	0.00%
Canada	0.00%	0.00%	-0.18%	0.00%	0.00%	-0.15%	0.00%	0.00%
Developing Economies ¹	-0.02%	-0.03%	0.07%	-0.09%	-0.03%	0.02%	0.05%	0.00%
China	0.00%	-0.02%	0.00%	0.00%	0.00%	0.08%	0.00%	0.00%
India ²	0.00%	0.00%	0.37%	0.00%	0.00%	0.07%	0.00%	0.00%
Mexico	0.00%	-0.20%	-0.20%	0.00%	0.00%	-0.15%	0.00%	0.00%

Forecast as of: November 06, 2019

¹Aggregated Using PPP Weights

Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	Central Bank Key Policy Rate					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	1.75%	1.50%	1.50%	1.50%	1.50%	1.50%
Eurozone ¹	-0.60%	-0.60%	-0.60%	-0.60%	-0.60%	-0.60%
United Kingdom	0.75%	0.75%	0.75%	0.75%	0.75%	0.75%
Japan	-0.10%	-0.10%	-0.10%	-0.10%	-0.10%	-0.10%
Canada	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
	2-Year Note					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	1.60%	1.60%	1.65%	1.65%	1.70%	1.75%
Eurozone ²	-0.75%	-0.70%	-0.60%	-0.50%	-0.40%	-0.30%
United Kingdom	0.45%	0.60%	0.75%	0.80%	0.90%	0.95%
Japan	-0.25%	-0.20%	-0.15%	-0.15%	-0.10%	-0.05%
Canada	1.45%	1.50%	1.55%	1.60%	1.65%	1.65%
	10-Year Note					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	1.70%	1.75%	1.85%	1.95%	2.05%	2.10%
Eurozone ²	-0.50%	-0.45%	-0.30%	-0.20%	-0.05%	0.05%
United Kingdom	0.60%	0.85%	1.05%	1.15%	1.20%	1.25%
Japan	-0.15%	-0.10%	-0.05%	0.00%	0.05%	0.05%
Canada	1.35%	1.45%	1.55%	1.60%	1.70%	1.75%

Forecast as of: November 06, 2019

¹ ECB Deposit Rate ² German Government Bond Yield

Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	Central Bank Key Policy Rate					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Eurozone ¹	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					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Eurozone ²	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%
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%

	10-Year Note					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Eurozone ²	0.05%	0.05%	0.05%	0.05%	0.05%	0.05%
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%

Forecast as of: November 06, 2019

¹ ECB Deposit Rate ² German Government Bond Yield

Source: International Monetary Fund and Wells Fargo Securities

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