

WELLS  
FARGO

SECURITIES

# Wells Fargo Economics *Annual Manual*

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

2020 Annual Outlook

December 18, 2019

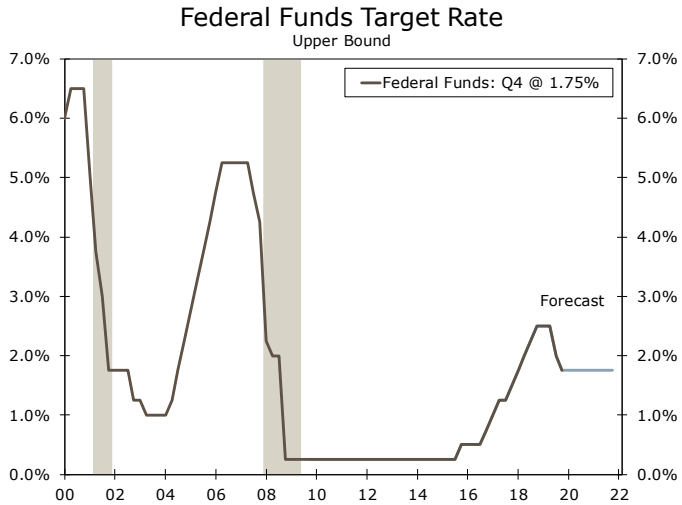
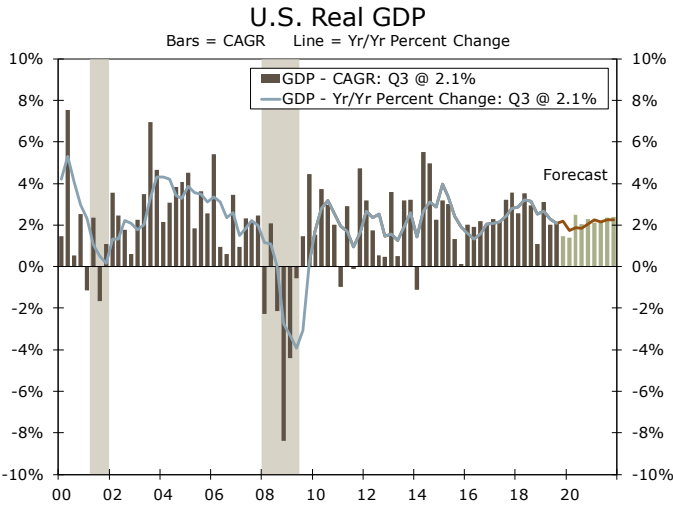
Together we'll go far



# Key Takeaways

## Developments since our November Monthly Economic Outlook

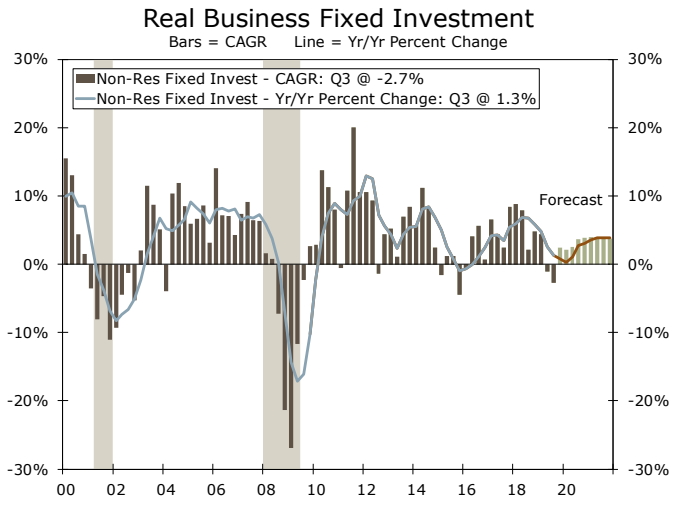
- We expect the U.S. economy to continue to expand in 2020, with the quarterly pace of growth gradually gaining momentum from the 1.4% annualized rate we expect in the first quarter. Our forecast is predicated on the assumption that China and the United States do not reach a broad, comprehensive trade deal in 2020, but also that tariffs do not escalate from here. **Essentially, our forecast assumes the status quo, and thus has both upside and downside risk related to trade policy.**
- Core PCE inflation may come close to hitting 2.0% in H1-2020, but to some extent this is due to favorable base effects. **We do not expect core inflation to break meaningfully above 2.0% over our forecast horizon.**
- **We no longer expect the Fed to cut rates once more. We now expect the Fed to keep rates on hold for the entirety of 2020, as growth remains near potential and core inflation remains just below 2%. Against this backdrop, we have boosted our 2020 year-end 10-year Treasury yield forecast to 2.20%, up from 2.05%.**
- **On the international front, we expect relatively flat 2020 economic growth from the United Kingdom, Eurozone and Japan, a continued gradual slowdown in China and faster growth in Mexico and India.**



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

# U.S. Growth Outlook

- **Real GDP growth forecast for 2020: 1.9%** (year-over-year percent change)
  - **We expect the U.S. economy to continue to expand in 2020, with the quarterly pace of growth gradually gaining momentum from the 1.4% annualized rate we expect in the first quarter.** The Q1 slowdown is largely due to Boeing’s 737 MAX production halt, which we estimate will shave 0.5 percentage points from headline GDP growth. This drag is expected to reverse once production resumes, but the exact timing of that remains unclear. More broadly, high consumer confidence and steady wage gains should support personal consumption growth next year, while low interest rates will likely boost residential investment, which we expect to post its first annual increase in three years. **We also expect trade policy uncertainty to linger, as our forecast continues to assume that a comprehensive trade deal between the United States and China remains elusive. We essentially are looking for the status quo in trade negotiations, no escalation or de-escalation.**
- **Real GDP growth forecast for 2021: 2.2%** (year-over-year percent change)
  - In 2021, we look for real GDP growth of 2.2%, roughly in line with the average growth rate in the current expansion. Given the policy uncertainties between now and 2021, there is admittedly a great deal of unpredictability around this forecast. But, **we currently do not see any major imbalances in the economy akin to ones from previous cycles, such as housing in the 2000s or tech in the 1990s.** As such, we think a forecast for growth and inflation around their steady state rates is appropriate.



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

## Key Themes and Upside/Downside Scenarios

- ***Upside scenario:*** Trade uncertainty dissipates after a comprehensive U.S.-China deal is reached and the USMCA is passed. The global economy firms and U.S. investment spending accelerates. Inflation returns to the 2% target and periodically exceeds it for brief periods of time. The Fed remains on hold for a time, and then gradually reverses some of the easing it did in 2019.
- ***Downside scenario:*** The trade war escalates further, and the lagged effects of recent tariff actions weigh further on economic growth domestically and abroad. With limited ammunition, monetary policy is ineffective, and economic growth in several major economies approaches a pace consistent with recession.

## Inflation Forecast

- Core PCE inflation may come close to hitting 2.0% in H1-2020, but to some extent this is due to favorable base effects. We do not expect core inflation to break meaningfully above 2% over our forecast horizon.

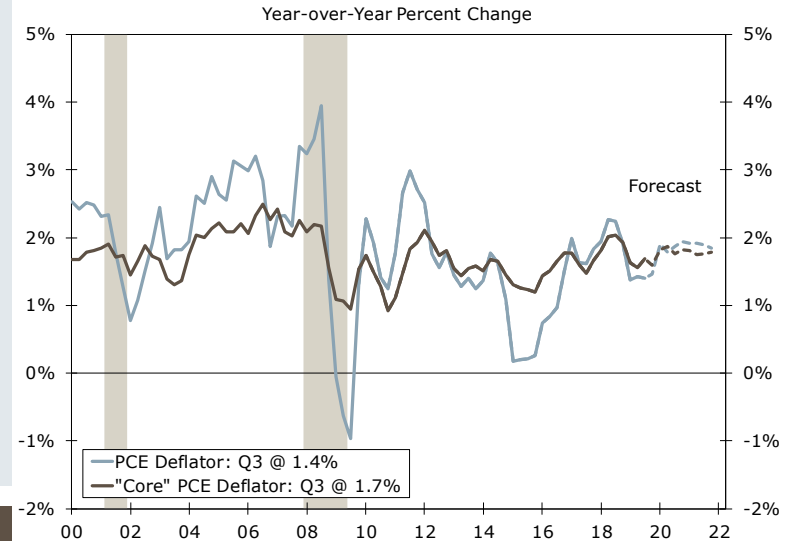
## Labor Market Forecast

- We look for the unemployment rate to finish 2020 around 3.6%, with average monthly job growth in 2020 slowing to about 123,000 (down from an anticipated 176,000 in 2019). By our estimates, it takes monthly job growth of roughly 100,000 to keep the unemployment rate steady.

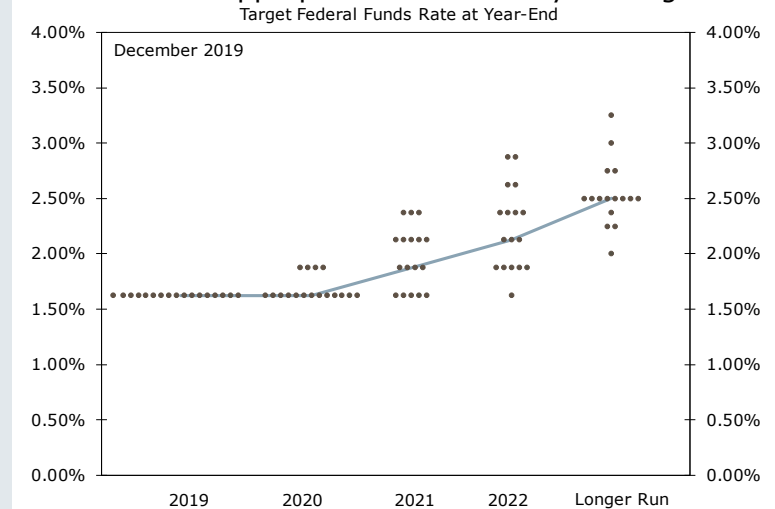
## Fed Funds Outlook

- 2020 Fed Funds Forecast: **No change**
  - The Q1-2020 rate cut in our previous forecast was predicated on our longstanding assumption that the December 15 tariffs would go into effect. Since those tariffs have now been cancelled, we think the case for one more cut is **no longer compelling**. We now believe the fed funds rate will remain unchanged in 2020, as growth, inflation and financial conditions will be strong enough to prevent more easing, but not hot enough to warrant rate hikes.
- 2021 Fed Funds Forecast: **No change**
  - Unless inflation breaks out to the upside, we do not think the Fed will feel compelled to hike rates in 2021, although a gradual move higher could eventually be in store.

## PCE Deflator & "Core" PCE Deflator



## FOMC: Appropriate Pace of Policy Firming



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

## The Federal Open Market Committee is composed of 12 members:

7 members of the Board of Governors + the New York Fed President + 4 rotating District Presidents

- **Chairman**  
Serving a renewable 4-year term ending on February 4, 2022
- **Board of Governors**  
Permanent voting seat
- **New York Fed President**  
Vice Chair of FOMC, Permanent voting seat
- **Voting Districts**  
Four voting regional presidents
- **Non-Voting Districts**  
Seven non-voting regional presidents

2020 FOMC

### Board of Governors

**Jerome Powell**  
*Chairman*  
**D**

**Richard Clarida**  
*Vice Chair Board of Governors*  
**D**

**Randal Quarles**  
*Vice Chair Supervision*  
**N**

**Lael Brainard**  
**N**

**Michelle Bowman**  
**H**

**Vacant Seat**

**Vacant Seat**

*Presidential Appointment, Senate Confirmation*

### Voting Districts

**John Williams**  
*Vice Chair FOMC*  
(New York)  
**N**

**Loretta Mester**  
(Cleveland)  
**H**

**Patrick Harker**  
(Philadelphia)  
**H**

**Robert Kaplan**  
(Dallas)  
**N**

**Neel Kashkari**  
(Minneapolis)  
**D**

### Non-Voting Districts

**Charles Evans**  
(Chicago)  
**D**

**Thomas Barkin**  
(Richmond)  
**N**

**Raphael Bostic**  
(Atlanta)  
**N**

**Mary Daly**  
(San Francisco)  
**N**

**Eric Rosengren**  
(Boston)  
**H**

**James Bullard**  
(St. Louis)  
**D**

**Esther George**  
(Kansas City)  
**H**

### Policy Inclination:

Designated by Bloomberg LP as of December 2019

H = Hawk

N = Neutral

D = Dove

### Federal Reserve Voting Districts Rotation:

<u>2020</u>	<u>2021</u>	<u>2022</u>
<b>New York</b>	<b>New York</b>	<b>New York</b>
Cleveland	Chicago	Cleveland
Philadelphia	Richmond	Boston
Dallas	Atlanta	St. Louis
Minneapolis	San Francisco	Kansas City

### FOMC Meetings:

\* = FOMC Forecasts Updated

January 28-29, 2020	July 28-29, 2020
March 17-18, 2020*	September 15-16, 2020*
April 28-29, 2020	October 04-05, 2020
June 09-10, 2020*	December 15-16, 2020*

# 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	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
3 Month LIBOR	2.31	2.34	2.40	2.81	2.60	2.32	2.09	1.85	1.80	1.80	1.80	1.80	1.85	1.85	1.85	1.85
Prime Rate	4.75	5.00	5.25	5.50	5.50	5.50	5.00	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
Conventional Mortgage Rate	4.44	4.57	4.63	4.64	4.28	3.80	3.61	3.75	3.85	3.85	3.85	3.90	3.95	4.00	4.05	4.10
3 Month Bill	1.73	1.93	2.19	2.45	2.40	2.12	1.88	1.55	1.60	1.60	1.60	1.60	1.65	1.65	1.65	1.65
6 Month Bill	1.93	2.11	2.36	2.56	2.44	2.09	1.83	1.55	1.60	1.60	1.60	1.65	1.65	1.70	1.70	1.70
1 Year Bill	2.09	2.33	2.59	2.63	2.40	1.92	1.75	1.50	1.60	1.65	1.65	1.70	1.70	1.75	1.80	1.85
2 Year Note	2.27	2.52	2.81	2.48	2.27	1.75	1.63	1.65	1.75	1.80	1.80	1.85	1.90	1.90	1.95	2.00
5 Year Note	2.56	2.73	2.94	2.51	2.23	1.76	1.55	1.70	1.85	1.90	1.90	1.95	2.00	2.05	2.10	2.15
10 Year Note	2.74	2.85	3.05	2.69	2.41	2.00	1.68	1.90	2.10	2.15	2.15	2.20	2.25	2.30	2.35	2.40
30 Year Bond	2.97	2.98	3.19	3.02	2.81	2.52	2.12	2.30	2.50	2.55	2.60	2.70	2.75	2.80	2.85	2.90

Forecast as of: December 18, 2019

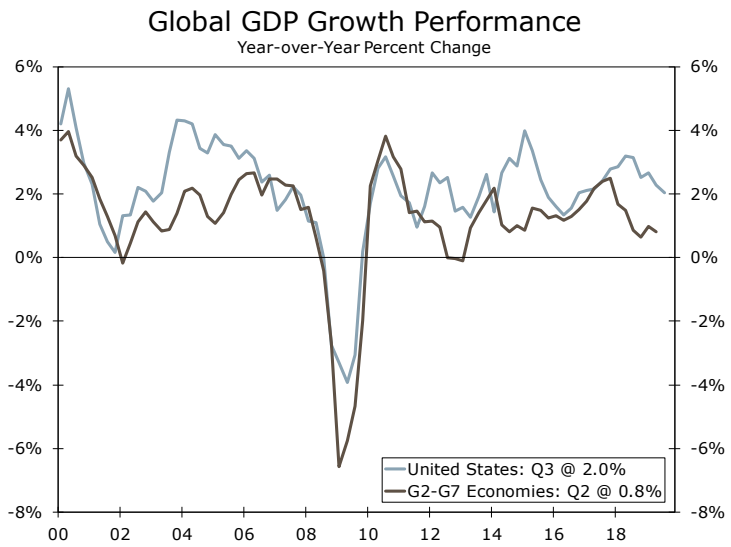
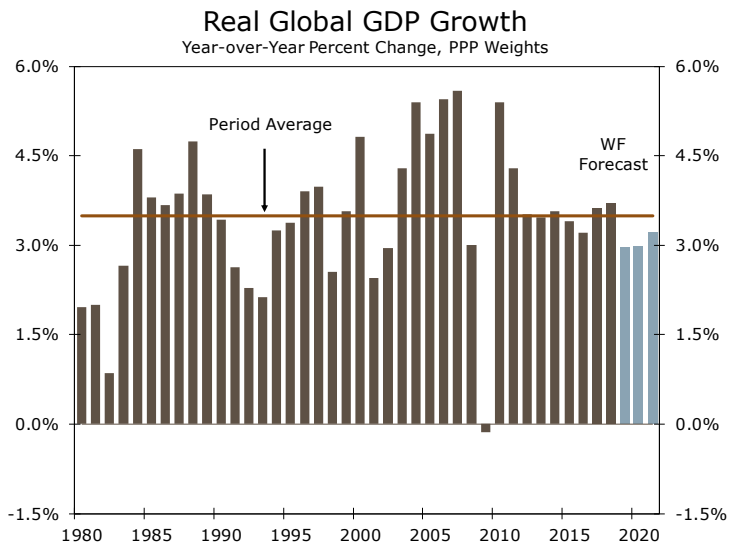
Source: Federal Reserve Board and Wells Fargo Securities

## What Are We Watching in the Year Ahead?

- Trade policy likely to remain dominant for financial markets in 2020
  - The recent détente between China and the United States on trade policy is encouraging, and tipped us in favor of no additional Fed rate cuts. That said, trade policy is unlikely to fade into the background anytime soon. Further tariff rollbacks or a re-escalation in tensions could create sizable swings in Treasury yields in 2020.
- Overseas monetary policy keeping a lid on U.S. rates
  - Even if the Fed is done easing, extraordinarily accommodative monetary policy abroad will likely prevent Treasury yields from rising too much. Foreign economies, especially in Europe, need to strengthen before we see materially higher rates in the United States.
- Federal Reserve review of monetary policy strategy, tools and communication likely to conclude in mid-2020
  - Several key decisions loom for the future of U.S. monetary policy: the potential introduction of a standing repo facility, possible changes to inflation targeting and changes to FOMC communication, among others.
- The 2020 U.S. presidential election: another political inflection point?
  - We expect rates to be relatively flat in the lead up to the election, but the prospect of a major inflection point in U.S. politics could lead to a significant shift in financial markets, as was the case after the 2016 election.

## Our Baseline Forecasts for the World’s Major Developed Economies

- Eurozone economic growth should grind slowly higher over the course of 2020, but risks are to the downside.
  - Manufacturing is showing initial signs of recovering, but it is not out of the woods yet. The service sector has been more resilient but is hardly booming.
  - We expect Eurozone real GDP growth of 1.0% in 2020.
- The U.K. economy should stabilize, but not accelerate, as the Brexit process moves to “phase two,” or longer-term EU-U.K. trade talks.
  - Upside is limited by lingering concerns over future trading relationships and new deadlines.
  - We expect real GDP growth of just 1.1% in 2020.
- Steady GDP growth just below the 2% trend in Canada.
  - The labor market has generally been solid in 2019, but cracks are starting to form and Canada’s economic outperformance may not continue.
- We expect Japanese economic growth to slow sharply around the turn of the year, mostly reflecting the October tax hike, but recover throughout 2020.
  - Some modest fiscal easing should support growth, but may not fully offset the consumption tax hike. Inflation remains well shy of the Bank of Japan’s 2% target.



Source: International Monetary Fund, Datastream 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	No change through Q4-2021
Eurozone (ECB)	-0.50% (Deposit Rate)	September 2019 10 bps cut, restart of asset purchases in November of 20 billion euros per month with an open-ended timeframe	Next Rate Move: Cut in Q1-2020 Likley March (10 bps)
United Kingdom (BoE)	0.75%	August 2018 25 bps hike	No change through Q1-2021
Japan (BoJ)	-0.1%	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	No change through Q1-2021

Forecast as of: December 18, 2019

Source: Bloomberg LP and Wells Fargo Securities

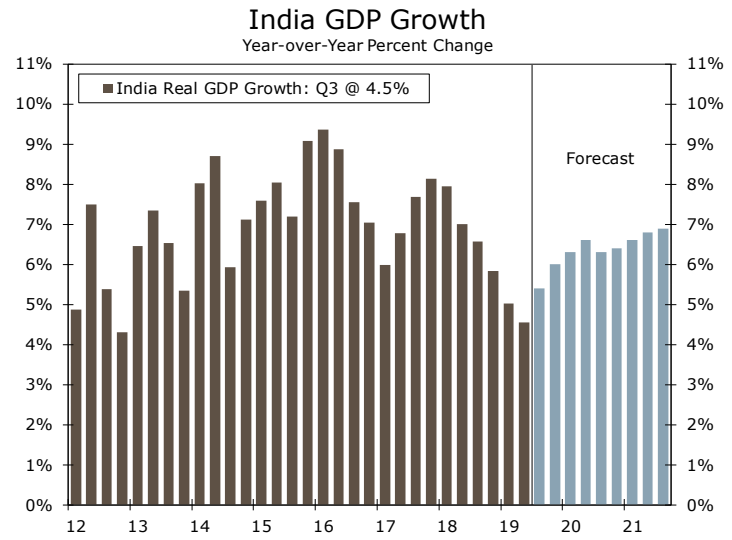
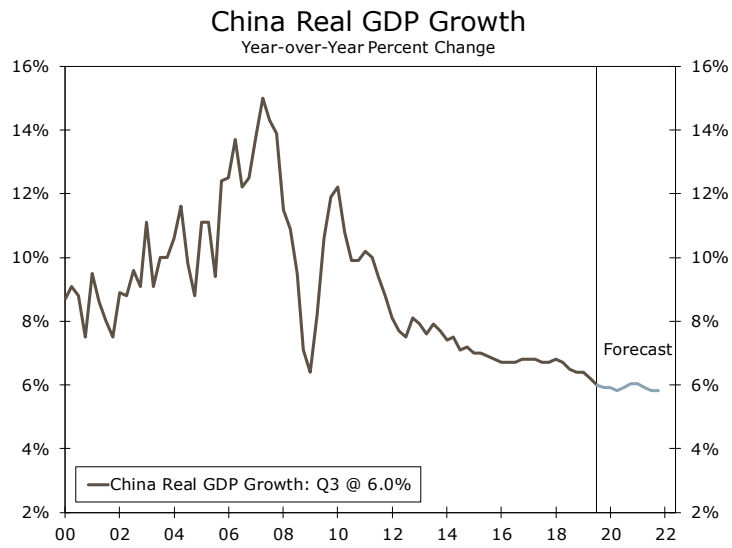
## Key Global Central Bank Themes for 2020

- European Central Bank
  - With core inflation remaining stagnant, inflation expectations down and the Eurozone economy still showing little evidence of an imminent rebound, **we think the ECB will ease once more in 2020. Specifically, we anticipate another 10 bps rate cut in March, as well as continued QE through the end of 2020.**
- 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.
- Bank of England
  - Even if Boris Johnson's Brexit deal is passed in Q1-2020—which we believe is very likely—**we expect the BoE to keep interest rates on hold through the end of 2020 amid economic growth of just 1%.**
- Bank of Canada
  - **We look for the BoC to keep rates on hold in 2020.** With inflation on target, wage growth robust and the housing market stabilizing, we do not expect the BoC to rock the boat anytime soon.



## Our Baseline Forecasts for the World’s Major Developing Economies

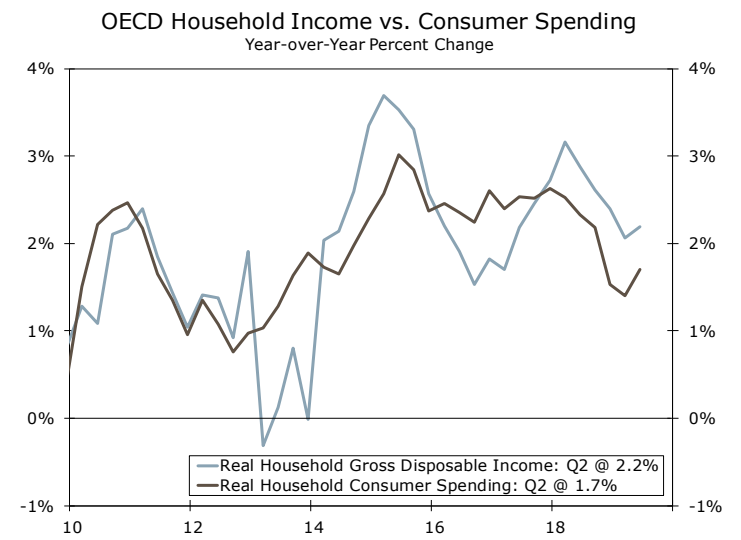
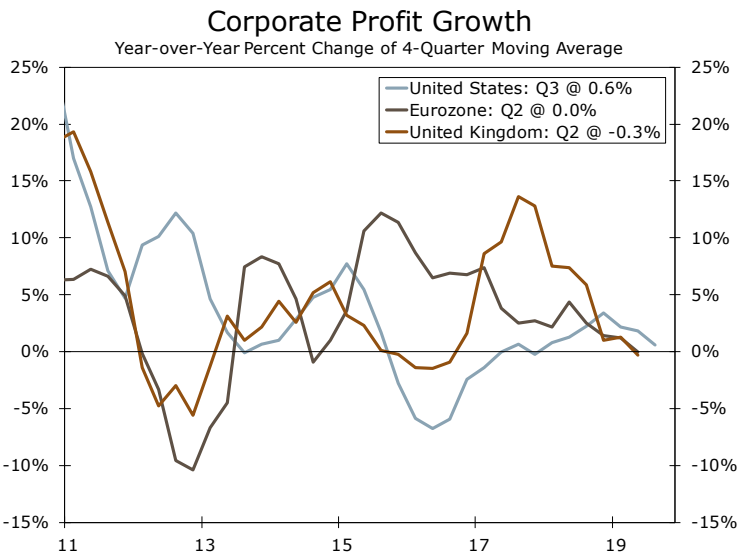
- We expect growth in emerging market economies to pick up a bit next year despite a further slowdown in China. Although we think **the Chinese economy is likely to decelerate further, we think growth in developing economies will be supported by faster growth in India and Mexico.**
- We look for a slowdown in Chinese real GDP growth to **5.9%** next year, down from about **6.1%** this year.
  - China’s deceleration is primarily driven by the lagged effect of the trade war; however, structural factors (aging population, leverage issues) will also play a role.
  - **With a phase one trade deal with the United States secured, we expect the growth slowdown in China to be even more gradual than previously forecasted.**
- Following a sharp slowdown in 2019, we expect growth in India to recover in 2020.
  - **Aggressive monetary easing as well as fiscal stimulus from the Modi administration should boost Indian growth prospects.**
- Mexico’s economy likely to experience a moderate recovery next year.
  - A weaker U.S. economy could weigh on Mexico, but aggressive central bank rate cuts and expansionary fiscal policy should generate some recovery in growth.



Source: IHS Markit, Bloomberg LP and Wells Fargo Securities

## Consumer Incomes Rising at the Expense of Businesses

- **Corporate profit growth has slowed** across several major developed economies.
  - Corporations do not appear to be fully passing on rising wage costs to consumer prices, squeezing margins.
  - This has added to existing pressure on companies, particularly in globally exposed sectors such as manufacturing, from the ongoing U.S.-China trade war and other global uncertainties.
- Meanwhile, **stronger wage growth has bolstered consumers** across the developed world.
  - **Consumers remain the primary engine of growth** in the United States, Eurozone and United Kingdom.
  - Income is still rising more quickly than consumer spending in most developed economies, suggesting consumers are not necessarily stretched and spending has room to run.
- The upshot is that consumers look solid for now, but **more improvement in the business sector would be welcome.**
  - If profits continue to get squeezed, companies could start to cut back on employment, which **could put the consumer outlook at risk.**
  - **Fiscal easing would help**, but at this point in time it is hard to see any of the major economies (U.S., Eurozone, U.K. and Japan) offering new, large-scale stimulus that would be enough to boost corporate profit growth.



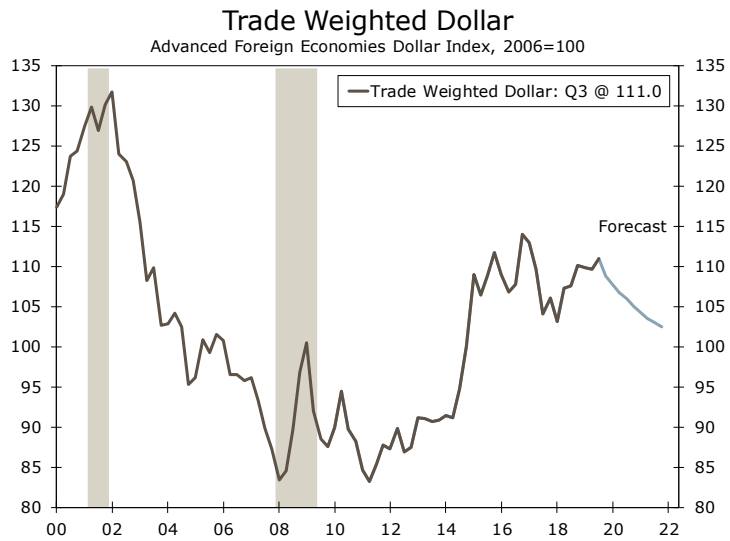
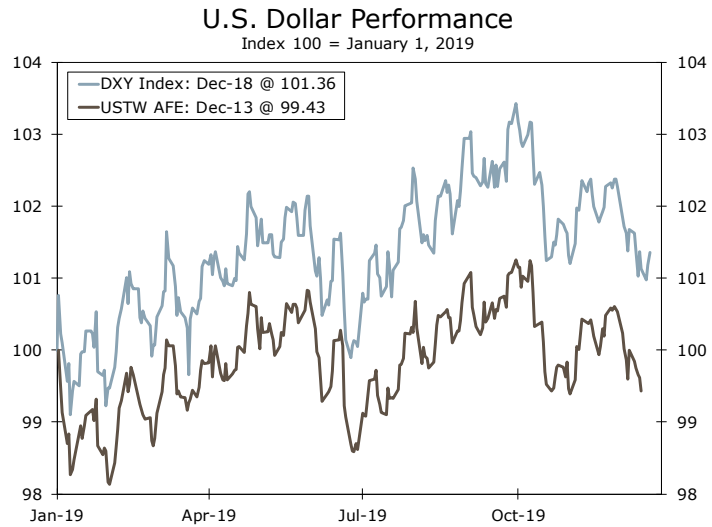
Source: Datastream, OECD and Wells Fargo Securities

## From Modest U.S. Dollar Strength...

- **Modest U.S. dollar strength in 2019** driven by:
  - “Hawkish cuts” from the FOMC—despite easing monetary policy three times, commentary around Fed rate cuts was less dovish than expected.
  - Resilience of the U.S. economy, while foreign economies (Europe, U.K., China) slowed.
  - Trade tensions and other global risks increased demand for safe haven qualities of the U.S. dollar.
- **Emerging market currencies underperformed G10**
  - Trade tensions, hawkish Fed rate cuts and local politics all weighed on emerging currencies.

## ...to Some Foreign Currency Strength...

- **Dollar strength turns to weakness in 2020:**
  - U.S. economy decelerates further, while foreign economies stabilize.
  - Global political risks eventually start to diminish (U.S.-China trade tensions ease, orderly Brexit), which should be supportive of foreign currencies.
    - Safe haven flows to the U.S. dollar diminish.
- **For now, we see the dollar turn occurring by mid-2020.**
  - But that could change based on how political risks evolve.



Source: Bloomberg LP, Federal Reserve Board and Wells Fargo Securities

## Wells Fargo U.S. Economic Forecast

	Actual																Forecast			
	2018				2019				2020				2021				Actual	Forecast		
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	2018	2019	2020	2021
Real Gross Domestic Product (a)	2.6	3.5	2.9	1.1	3.1	2.0	2.1	1.5	1.4	2.5	2.1	2.3	2.1	2.2	2.4	2.4	2.9	2.3	1.9	2.2
Personal Consumption	1.7	4.0	3.5	1.4	1.1	4.6	2.9	2.1	2.1	2.0	1.9	1.9	1.8	2.1	2.2	2.2	3.0	2.6	2.3	2.0
Business Fixed Investment	8.8	7.9	2.1	4.8	4.4	-1.0	-2.7	2.5	2.2	2.6	3.7	3.8	4.0	3.9	3.9	3.8	6.4	2.3	1.8	3.8
Equipment	6.6	3.4	2.9	7.4	-0.1	0.8	-3.8	1.1	1.4	1.5	2.6	2.9	3.4	3.4	3.2	3.0	6.8	1.6	0.9	3.0
Intellectual Property Products	9.7	11.9	4.1	11.7	10.8	3.6	5.1	6.2	5.1	4.4	5.7	6.0	5.9	5.5	5.6	5.7	7.4	7.8	5.2	5.7
Structures	12.1	11.0	-2.1	-9.0	4.0	-11.1	-12.0	-6.5	-1.5	1.5	2.5	2.0	1.8	1.9	2.0	2.1	4.1	-4.5	-3.2	2.0
Residential Investment	-5.3	-3.7	-4.0	-4.7	-1.0	-3.0	5.1	4.5	4.3	4.5	4.5	4.3	4.0	4.0	3.8	3.5	-1.5	-1.6	4.0	4.1
Government Purchases	1.9	2.6	2.1	-0.4	2.9	4.8	1.6	0.5	1.1	1.1	1.0	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	-988.3	-983.3	-982.3	-981.2	-989.3	-992.7	-1000.4	-1006.7	-1004.3	-1003.2	-920.0	-974.1	-986.4	-1003.6
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	-0.1	-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	79.8	54.0	20.0	37.0	40.0	50.0	59.0	60.0	60.0	60.0	48.1	79.8	36.8	59.8
Pct. Point Contribution to GDP	0.1	-1.2	2.1	0.1	0.5	-0.9	0.2	-0.5	-0.7	0.4	0.1	0.2	0.2	0.0	0.0	0.0	0.1	0.2	-0.2	0.1
Nominal GDP (a)	5.0	7.1	4.8	2.9	3.9	4.7	3.8	3.2	3.6	4.4	4.0	4.2	4.2	4.1	4.1	4.1	5.4	4.1	3.8	4.2
Real Final Sales	2.4	4.8	0.8	1.0	2.6	3.0	2.0	2.3	2.1	2.1	2.0	2.1	1.9	2.2	2.4	2.4	2.8	2.2	2.2	2.1
Retail Sales (b)	4.7	5.7	5.5	3.4	2.8	3.4	4.0	4.1	4.2	3.0	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	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.8	2.1	1.4	1.9	1.9
"Core" PCE Deflator	1.8	2.0	2.0	1.9	1.6	1.6	1.7	1.6	1.8	1.9	1.8	1.8	1.8	1.7	1.8	1.8	2.0	1.6	1.8	1.8
Consumer Price Index	2.2	2.7	2.6	2.2	1.6	1.8	1.8	2.0	2.4	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.4	1.8	2.2	2.2
"Core" Consumer Price Index	1.9	2.2	2.2	2.2	2.1	2.1	2.3	2.3	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.0
Producer Price Index (Final Demand)	2.8	3.0	3.1	2.8	1.9	2.0	1.6	1.2	1.8	1.5	2.0	2.3	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	3.0	2.9	2.4	1.9	3.0	2.3	2.2	2.1	1.5	2.0	2.2	4.0	2.9	2.3	1.9
Nominal Personal Income (b)	5.6	5.8	5.9	4.9	4.6	4.7	4.4	4.2	3.8	4.6	4.2	4.2	4.1	3.5	3.9	4.1	5.6	4.5	4.2	3.9
Industrial Production (a)	2.3	4.6	5.2	3.9	-1.9	-2.3	1.2	-0.6	-3.9	1.6	1.7	2.1	1.2	1.8	1.9	1.3	3.9	0.8	-0.5	1.7
Capacity Utilization	77.9	78.5	79.1	79.4	78.6	77.8	77.6	77.1	76.4	76.7	77.0	77.4	78.0	78.4	78.9	79.2	78.7	77.8	76.9	78.6
Corporate Profits Before Taxes (b)	2.9	2.4	4.2	4.2	-2.2	1.3	-0.8	2.6	3.0	0.8	3.2	2.2	1.4	3.2	2.5	1.0	3.4	0.2	2.3	2.0
Corporate Profits After Taxes	10.3	8.3	11.3	10.1	-2.9	1.3	0.4	2.2	2.9	0.7	2.0	2.1	1.3	3.1	2.4	0.9	10.0	0.2	1.9	1.9
Federal Budget Balance (c)	-375	-7	-172	-319	-372	-56	-237	-367	-411	-46	-227	-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	108.8	107.8	106.8	106.0	105.0	104.3	103.5	103.0	102.5	106.4	109.8	106.4	103.3
Nonfarm Payroll Change (e)	228	243	189	233	174	152	193	184	180	405	-105	10	115	110	110	110	223	176	123	111
Unemployment Rate	4.1	3.9	3.8	3.8	3.9	3.6	3.6	3.6	3.6	3.5	3.6	3.6	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	1.30	1.29	1.29	1.29	1.29	1.30	1.30	1.32	1.32	1.25	1.26	1.29	1.31
Light Vehicle Sales (g)	17.1	17.3	17.0	17.4	16.8	17.0	17.0	16.8	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	61.5	60.0	60.0	59.0	59.0	59.0	59.0	59.0	59.0	71.5	63.6	59.5	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	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.96	2.19	1.75	1.75
3 Month LIBOR	2.31	2.34	2.40	2.81	2.60	2.32	2.09	1.85	1.80	1.80	1.80	1.80	1.85	1.85	1.85	1.85	2.31	2.21	1.80	1.85
Prime Rate	4.75	5.00	5.25	5.50	5.50	5.50	5.00	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.96	5.19	4.75	4.75
Conventional Mortgage Rate	4.44	4.57	4.63	4.64	4.28	3.80	3.61	3.75	3.85	3.85	3.85	3.90	3.95	4.00	4.05	4.10	4.54	3.86	3.86	4.03
3 Month Bill	1.73	1.93	2.19	2.45	2.40	2.12	1.88	1.55	1.60	1.60	1.60	1.60	1.65	1.65	1.65	1.65	1.97	1.99	1.60	1.65
6 Month Bill	1.93	2.11	2.36	2.56	2.44	2.09	1.83	1.55	1.60	1.60	1.60	1.65	1.65	1.70	1.70	1.70	2.14	1.98	1.61	1.69
1 Year Bill	2.09	2.33	2.59	2.63	2.40	1.92	1.75	1.50	1.60	1.65	1.65	1.70	1.70	1.75	1.80	1.85	2.33	1.89	1.65	1.78
2 Year Note	2.27	2.52	2.81	2.48	2.27	1.75	1.63	1.65	1.75	1.80	1.80	1.85	1.90	1.90	1.95	2.00	2.53	1.83	1.80	1.94
5 Year Note	2.56	2.73	2.94	2.51	2.23	1.76	1.55	1.70	1.85	1.90	1.90	1.95	2.00	2.05	2.10	2.15	2.75	1.81	1.90	2.08
10 Year Note	2.74	2.85	3.05	2.69	2.41	2.00	1.68	1.90	2.10	2.15	2.15	2.20	2.25	2.30	2.35	2.40	2.91	2.00	2.15	2.33
30 Year Bond	2.97	2.98	3.19	3.02	2.81	2.52	2.12	2.30	2.50	2.55	2.60	2.70	2.75	2.80	2.85	2.90	3.11	2.44	2.59	2.83

Forecast as of: December 18, 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 November 6, 2019

## 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	0.20	0.27	-0.33	0.53	-0.18	0.35	0.00	-0.01	-0.03	0.00	0.00	0.04	0.09	0.07	
Personal Consumption	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.14	0.14	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.07	0.00	
Business Fixed Investment	0.00	0.00	0.00	0.00	0.00	0.00	0.31	-0.88	-0.44	0.72	0.18	0.37	0.00	0.00	0.00	0.00	0.00	-0.01	-0.05	0.14	
Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.03	1.18	0.48	1.96	0.40	0.80	-0.01	-0.01	-0.01	0.00	0.00	0.08	0.81	0.32	
Intellectual Property Products	0.00	0.00	0.00	0.00	0.00	0.00	-1.50	0.11	0.19	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.19	-0.07	0.02	
Structures	0.00	0.00	0.00	0.00	0.00	0.00	3.31	-7.00	-4.00	-1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-2.10	-0.09	
Residential Investment	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.75	0.50	0.50	0.25	0.00	-0.50	-0.75	0.00	0.00	0.00	0.36	-0.08	
Government Purchases	0.00	0.00	0.00	0.00	0.00	0.00	-0.37	0.11	0.39	-0.29	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	-0.04	0.00	-0.03	
Net Exports	0.0	0.0	0.0	0.0	0.0	0.0	-1.9	9.5	10.0	10.0	11.9	25.6	25.8	26.0	26.1	0.8	0.0	1.9	14.4	26.0	
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.24	0.01	0.00	0.04	0.28	0.00	0.00	0.00	0.00	0.00	0.01	0.07	0.1	
Inventory Change	0.00	0.00	0.00	0.00	0.00	0.00	10.76	12.00	-10.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.69	0.50	0.0	
Pct. Point Contribution to GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.03	-0.46	0.46	-0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.03	-0.03	0.0	
Nominal GDP	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.29	-0.62	0.30	-0.18	0.36	0.00	-0.01	-0.03	0.00	0.00	0.06	-0.01	0.1	
Real Final Sales	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.23	0.13	0.07	0.07	0.36	0.00	-0.01	-0.03	0.00	0.00	0.01	0.12	0.1	
Retail Sales (b)	0.00	0.00	-0.02	0.03	0.00	0.00	-0.05	-0.07	-0.04	-0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	-0.01	0.0	
Inflation Indicators (b)																					
PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.02	-0.09	-0.14	-0.13	-0.13	-0.06	0.00	0.00	0.00	0.00	-0.01	-0.12	0.0	
"Core" PCE Deflator	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.11	-0.23	-0.29	-0.30	-0.23	-0.15	-0.11	-0.08	0.00	0.00	-0.03	-0.26	-0.1	
Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.17	0.11	0.10	-0.16	-0.07	-0.01	0.00	0.00	0.00	0.06	0.06	0.0	
"Core" Consumer Price Index	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	-0.11	-0.17	-0.21	-0.25	-0.13	-0.07	-0.03	0.00	0.00	0.00	-0.18	-0.1	
Producer Price Index (Final Demand)	0.00	0.00	0.00	0.00	0.00	-0.03	-0.03	0.09	-0.02	0.00	0.00	-0.12	-0.01	0.00	0.00	0.00	0.00	0.01	-0.03	0.0	
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	0.0	
Real Disposable Income (b)	0.00	0.00	0.00	0.00	0.00	-0.22	-0.23	-0.46	-0.38	-0.11	-0.10	0.13	0.06	0.00	0.00	0.00					
Nominal Personal Income (b)	0.00	0.00	0.00	0.00	0.00	-0.25	-0.27	-0.49	-0.48	-0.24	-0.22	0.00	0.00	0.00	0.00	0.00	0.00	-0.25	-0.23	0.0	
Industrial Production (a)	0.00	0.00	0.00	0.00	0.00	-0.07	-0.01	-0.85	-5.01	0.91	0.34	0.18	0.00	0.00	0.00	0.00	0.00	-0.07	-1.22	0.1	
Capacity Utilization	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.08	-0.40	-0.39	-0.53	-0.59	-0.33	-0.27	-0.07	0.00	0.00	-0.03	-0.48	-0.2	
Corporate Profits Before Taxes (b)	0.00	0.00	0.00	0.00	0.00	0.00	-1.30	-0.61	-0.80	-1.11	0.40	1.54	-0.17	0.40	-0.50	0.00	0.00	-0.48	0.03	-0.5	
Corporate Profits After Taxes	0.00	0.00	0.00	0.00	0.00	0.00	-0.20	-0.61	-0.79	-1.11	-0.77	1.54	-0.18	0.40	-0.54	0.00	0.00	-0.20	-0.27	-0.5	
Federal Budget Balance (c)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-50.91	16.97	16.97	16.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	
Trade Weighted Dollar Index (d)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-1.25	-1.75	-2.25	-2.00	-2.25	-1.75	-2.00	-2.00	0.00	0.00	-0.31	-2.06	-1.9	
Nonfarm Payroll Change (e)	0.00	0.00	0.00	0.00	0.00	0.00	4.33	41.33	10.00	10.00	10.00	10.00	15.00	5.00	0.00	0.00	0.00	11.42	10.00	5.0	
Unemployment Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00	0.00	0.00	-0.10	-0.03	0.00	0.00	0.00	0.00	-0.01	-0.03	0.0	
Housing Starts (f)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.02	0.01	0.02	0.02	0.04	0.00	0.00	0.00	0.01	0.0	
Light Vehicle Sales (g)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.0	
Crude Oil - Brent - Front Contract (h)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	4.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	1.75	0.0	
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	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.00	0.00	0.25	0.3	
3 Month LIBOR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.20	0.20	0.20	0.20	0.20	0.25	0.25	0.30	0.00	0.01	0.20	0.2	
Prime Rate	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	0.25	0.25	0.00	0.00	0.25	0.3	
Conventional Mortgage Rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.35	0.30	0.20	0.15	0.15	0.10	0.10	0.10	0.00	0.05	0.25	0.1	
3 Month Bill	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.20	0.20	0.20	0.25	0.25	0.30	0.00	0.00	0.20	0.2	
2 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.20	0.00	0.01	0.15	0.2	
5 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.25	0.20	0.15	0.15	0.10	0.10	0.10	0.15	0.00	0.04	0.19	0.2	
10 Year Note	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.35	0.30	0.20	0.15	0.15	0.10	0.10	0.10	0.00	0.05	0.25	0.2	
30 Year Bond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20	0.10	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.02	0.10	0.1	

Forecast as of: December 18, 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

## 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%	3.3%	3.6%	3.4%	3.6%	3.4%
Advanced Economies <sup>1</sup>	2.3%	1.9%	1.6%	2.0%	2.0%	1.5%	1.9%	1.9%
United States	2.9%	2.3%	1.9%	2.2%	2.4%	1.8%	2.2%	2.2%
Eurozone	1.9%	1.2%	1.0%	1.4%	1.8%	1.2%	1.3%	1.5%
United Kingdom	1.4%	1.3%	1.1%	1.6%	2.5%	1.8%	1.8%	2.0%
Japan	0.3%	1.1%	0.4%	1.0%	1.0%	0.5%	1.2%	1.0%
Canada	2.0%	1.6%	1.6%	1.7%	2.3%	1.9%	1.9%	2.0%
Developing Economies <sup>1</sup>	4.5%	3.7%	4.1%	4.2%	4.8%	4.7%	4.8%	4.4%
China	6.6%	6.1%	5.9%	5.9%	2.1%	2.8%	3.0%	2.1%
India	7.4%	5.2%	6.3%	6.7%	3.9%	3.5%	4.1%	3.9%
Mexico	2.1%	0.1%	1.1%	1.8%	4.9%	3.6%	3.6%	3.5%

Forecast as of: December 18, 2019

<sup>1</sup>Aggregated 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%	-0.01%	0.04%	0.10%	0.00%	0.09%	0.16%	-0.05%
Advanced Economies <sup>1</sup>	0.00%	0.05%	0.05%	0.03%	0.00%	0.02%	0.03%	-0.03%
United States	0.00%	0.04%	0.09%	0.07%	0.00%	0.04%	0.05%	-0.06%
Eurozone	0.00%	0.03%	0.01%	0.00%	0.00%	0.02%	0.05%	0.00%
United Kingdom	0.00%	0.00%	0.06%	0.08%	0.00%	-0.09%	-0.07%	-0.03%
Japan	-0.47%	0.19%	0.06%	0.00%	0.00%	-0.01%	-0.02%	0.00%
Canada	0.14%	0.05%	-0.18%	-0.15%	0.00%	0.05%	-0.12%	-0.06%
Developing Economies <sup>1</sup>	0.00%	-0.05%	0.04%	0.14%	0.00%	0.14%	0.25%	-0.06%
China	0.00%	0.00%	0.17%	0.25%	0.00%	0.22%	0.45%	-0.10%
India <sup>2</sup>	0.00%	-0.31%	-0.30%	0.00%	0.00%	0.25%	0.30%	-0.06%
Mexico	0.00%	-0.04%	0.01%	0.05%	0.00%	0.00%	0.00%	0.07%

Forecast as of: December 18, 2019

<sup>1</sup>Aggregated 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%	1.75%	1.75%	1.75%	1.75%	1.75%
Eurozone <sup>1</sup>	-0.50%	-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	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%
	2-Year Note					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	1.65%	1.75%	1.80%	1.80%	1.85%	1.90%
Eurozone <sup>2</sup>	-0.65%	-0.70%	-0.65%	-0.60%	-0.55%	-0.45%
United Kingdom	0.55%	0.65%	0.75%	0.80%	0.90%	0.95%
Japan	-0.10%	-0.05%	-0.05%	0.00%	0.00%	0.05%
Canada	1.70%	1.70%	1.75%	1.75%	1.80%	1.85%
	10-Year Note					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	1.90%	2.10%	2.15%	2.15%	2.20%	2.25%
Eurozone <sup>2</sup>	-0.35%	-0.40%	-0.35%	-0.25%	-0.15%	0.00%
United Kingdom	0.75%	0.90%	1.00%	1.05%	1.05%	1.10%
Japan	0.00%	0.05%	0.05%	0.10%	0.10%	0.15%
Canada	1.65%	1.70%	1.75%	1.80%	1.85%	1.90%

Forecast as of: December 18, 2019

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

Source: International Monetary Fund and Wells Fargo Securities



## Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	Central Bank Key Policy Rate					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	0.00%	0.25%	0.25%	0.25%	0.25%	0.25%
Eurozone <sup>1</sup>	0.10%	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	0.05%	0.15%	0.15%	0.15%	0.15%	0.15%
Eurozone <sup>2</sup>	0.10%	0.00%	-0.05%	-0.10%	-0.15%	-0.15%
United Kingdom	0.10%	0.05%	0.00%	0.00%	0.00%	0.00%
Japan	0.15%	0.15%	0.10%	0.15%	0.10%	0.10%
Canada	0.25%	0.20%	0.20%	0.15%	0.15%	0.20%

	10-Year Note					
	2019	2020				2021
	Q4	Q1	Q2	Q3	Q4	Q1
United States	0.20%	0.35%	0.30%	0.20%	0.15%	0.15%
Eurozone <sup>2</sup>	0.15%	0.05%	-0.05%	-0.05%	-0.10%	-0.05%
United Kingdom	0.15%	0.05%	-0.05%	-0.10%	-0.15%	-0.15%
Japan	0.15%	0.15%	0.10%	0.10%	0.05%	0.10%
Canada	0.30%	0.25%	0.20%	0.20%	0.15%	0.15%

Forecast as of: December 18, 2019

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

Source: International Monetary Fund and Wells Fargo Securities

## Economists & Macro Strategists

Jay H. Bryson, Acting Chief Economist	<a href="mailto:jay.bryson@wellsfargo.com">jay.bryson@wellsfargo.com</a>
Mark Vitner, Senior Economist	<a href="mailto:mark.vitner@wellsfargo.com">mark.vitner@wellsfargo.com</a>
Sam Bullard, Senior Economist	<a href="mailto:sam.bullard@wellsfargo.com">sam.bullard@wellsfargo.com</a>
Nick Bennenbroek, Macro Strategist	<a href="mailto:nicholas.bennenbroek@wellsfargo.com">nicholas.bennenbroek@wellsfargo.com</a>
Tim Quinlan, Senior Economist	<a href="mailto:tim.quinlan@wellsfargo.com">tim.quinlan@wellsfargo.com</a>
Azhar Iqbal, Econometrician	<a href="mailto:azhar.iqbal@wellsfargo.com">azhar.iqbal@wellsfargo.com</a>
Sarah House, Senior Economist	<a href="mailto:sarah.house@wellsfargo.com">sarah.house@wellsfargo.com</a>
Charlie Dougherty, Economist	<a href="mailto:charles.dougherty@wellsfargo.com">charles.dougherty@wellsfargo.com</a>
Erik Nelson, Macro Strategist	<a href="mailto:erik.f.nelson@wellsfargo.com">erik.f.nelson@wellsfargo.com</a>
Michael Pugliese, Economist	<a href="mailto:michael.d.pugliese@wellsfargo.com">michael.d.pugliese@wellsfargo.com</a>
Brendan McKenna, Macro Strategist	<a href="mailto:brendan.mckenna@wellsfargo.com">brendan.mckenna@wellsfargo.com</a>

## Economic Analysts

Shannon Seery, Economic Analyst	<a href="mailto:shannon.seery@wellsfargo.com">shannon.seery@wellsfargo.com</a>
Matthew Honnold, Economic Analyst	<a href="mailto:matthew.honnold@wellsfargo.com">matthew.honnold@wellsfargo.com</a>
Jen Licis, Economic Analyst	<a href="mailto:jennifer.licis@wellsfargo.com">jennifer.licis@wellsfargo.com</a>
Hop Mathews, Economic Analyst	<a href="mailto:hop.mathews@wellsfargo.com">hop.mathews@wellsfargo.com</a>

## Administrative Assistant

Coren Burton, Administrative Assistant	<a href="mailto:coren.burton@wellsfargo.com">coren.burton@wellsfargo.com</a>
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