

# Economics Group

## MONTHLY OUTLOOK

### U.S. Overview

Experience matters. We began 2017 with the assumption that economic policy would be slow to evolve and that aggregate economic activity would differ little from the trend of recent years. Given our legislative experience and our assessment of the complexity and conflicting interests on policy issues of health care, tax reform and trade, we decided to wait until policy initiatives became clearer before altering our trend economic forecast.

Once again, 2017, as in prior years, looks likely to begin with a slow start, as we anticipate below a one percent gain on overall GDP growth. The rest of 2017 is expected to come in at 2.3 percent on average. Real final sales (graph below) will be supported by steady growth in consumer spending and an improvement in business equipment spending and structures over the 2016 pace. Government spending will add modestly to overall economic growth while trade remains a drag.

Inflation, as measured by the PCE deflator, will continue to persist near or above the FOMC's 2 percent target, and we anticipate that the FOMC will increase the funds rate in June and again in the second half of this year. Benchmark two- and 10-year U.S. Treasury rates are expected to rise modestly with the spread narrowing as the year progresses.

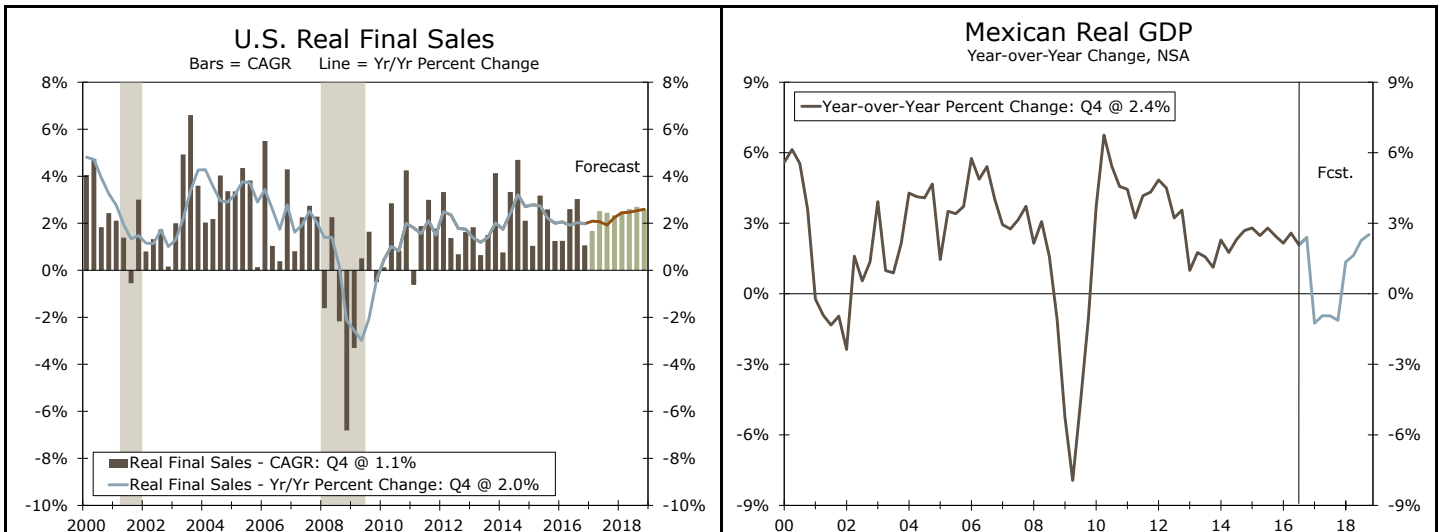
A pick up in the employment cost index, along with continued modest top-line nominal GDP growth, indicates a modest improvement in economic profits in 2017.

We expect that the trade-weighted dollar will continue to appreciate in 2017 as U.S. short-term rates rise.

### International Overview

The global economic outlook has continued to improve as recent economic weakness has given way to more certainty regarding economic prospects. However, some uncertainties remain in place, especially those related to global trade, which was one of the most important drivers of economic growth during the first decade and a half of this century. One of these uncertainties has to do with the new U.S. administration's talk against international trade. However, we have seen that the Trump administration's position regarding trade seems to have changed or morphed into a more benign view about the changes needed for trade to benefit the U.S. economy. That is, it seems that the changes being sought on the North American Free Trade Agreement (NAFTA) are more cosmetic right now and the changes do not seem to represent a threat for the trade agreement's survival. This is a breath of fresh air in the discussion regarding international trade, which has been one of the political issues that have generated great uncertainty for the global economy during the last year or so.

A second uncertainty has been the United Kingdom's decision to exit the European Union (EU). In March, the United Kingdom finally triggered the clause to leave the EU, a process that will likely take two years. Furthermore, the United Kingdom has been looking into the possibility of negotiating a free trade agreement with the United States and will probably need to do the same with many other countries as it reorients its external trade policy as an "independent" country.



Source: U.S. Department of Commerce, IHS Global Insight and Wells Fargo Securities



### Growth and Policy Caution: Hard and Soft Data

We began 2017 with the assumption that economic policy would be slow to evolve and that aggregate economic activity would differ little from the trend of recent years. Given the complexity and conflicting interests on the policy issues of health care, tax reform and trade, we continue to expect that any initiatives will impact the economic outlook sometime after 2017.

Once again, 2017, as in prior years, economic growth started the year with a slow start, as we anticipate below a one percent gain on overall GDP growth. The rest of 2017 is expected to come in at 2.3 percent on average. Real final sales will be supported by steady growth in consumer spending. Household spending will be supported by continued gains in employment and wages/benefit gains. In addition, a surge in consumer confidence will also support a steady consumer spending outlook. These “soft” data do not stand alone, but are supported by the hard data of jobs and labor compensation gains. Also, real per capita household net worth stands at a record with financial assets up significantly. Business equipment spending and structures are expected to improve as the drag from the mining sector has faded as oil prices have moved above \$50/barrel. Recent ISM surveys (soft data) remain in solid growth territory. Core capital goods orders (hard data, shown below) are improving, while firms will have an incentive to boost output via new capital investments to offset some of the rise in labor costs. One negative for commercial real estate has been the rise in the percentage of banks tightening standards for CRE loans—for the three categories of nonfarm/nonresidential, multifamily and construction & development. Homebuilding is shifting toward lower-priced products and lower-priced markets, as suburban development picks up and urban development is cooling off. Government spending will add to overall economic growth as spending picks up at the federal level, but we expect that state

and local government spending gains will be limited by the rising cost of transfer payments and pensions.

Trade remains a drag as the growth of real imports will exceed that of real exports. For the global outlook, we anticipate stronger growth in 2017 for Japan, Canada and Brazil relative to 2016. We do not anticipate a recession in 2017 for Mexico.

### Inflation and Interest Rates

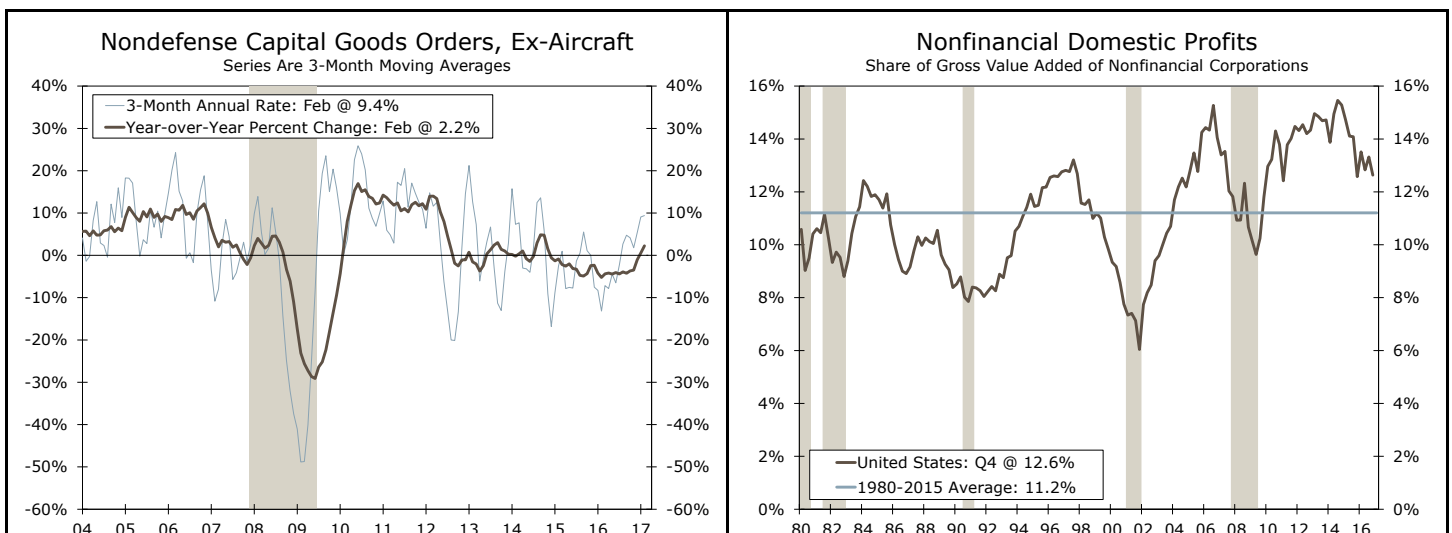
Inflation, as measured by the PCE deflator, will continue to persist near or above the FOMC’s 2 percent target. The FOMC has indicated a tolerance for a range of inflation outcomes around the 2 percent target, therefore giving the FOMC additional flexibility. Core PCE increases reflect continued rise in services (health care, housing) and a more modest drag from non-food/energy goods.

We anticipate that the FOMC will increase the funds rate in June and again in the second half of this year. Benchmark two- and 10-year U.S. Treasury rates are expected to rise modestly with the spread narrowing as the year progresses. The rising interest rate environment will not halt the expansion.

### Profits and the Dollar

A pick up in the employment cost index along with continued modest top-line nominal GDP growth indicates a modest improvement in economic profits in 2017. However, nonfinancial profit margins have peaked and this represents a challenge going forward for continued business investment and hiring in the face of a cyclical decline in profit margins.

We expect the trade-weighted dollar will continue to appreciate in 2017 as U.S. short-term rates rise. This represents a continued challenge to any attempts to reduce the U.S. trade balance. The United States currently runs a trade deficit with China, Europe, Mexico and Canada, with the China deficit exceeding Europe, Canada and Mexico combined.



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

Wells Fargo U.S. Economic Forecast																					
	Actual								Forecast								Actual			Forecast	
	2015				2016				2017				2018				2014	2015	2016	2017	2018
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q					
Real Gross Domestic Product (a)	2.0	2.6	2.0	0.9	0.8	1.4	3.5	2.1	0.8	2.9	2.6	2.3	2.5	2.6	2.7	2.6	2.4	2.6	1.6	2.1	2.5
Personal Consumption	2.4	2.9	2.7	2.3	1.6	4.3	3.0	3.5	1.1	2.7	2.5	2.4	2.7	2.9	3.0	2.9	2.9	3.2	2.7	2.5	2.7
Business Fixed Investment	1.3	1.6	3.9	-3.3	-3.4	1.0	1.4	0.9	6.1	4.4	4.4	4.7	4.2	4.9	4.8	4.6	6.0	2.1	-0.5	3.6	4.6
Equipment	9.3	-0.3	9.1	-2.6	-9.5	-2.9	-4.5	1.9	8.3	4.2	3.9	4.3	3.8	4.3	4.2	3.7	5.4	3.5	-2.9	3.2	4.1
Intellectual Property Products	0.8	8.0	2.1	4.5	3.8	9.0	3.2	1.3	4.6	4.5	4.7	5.0	5.1	4.8	4.7	4.5	3.9	4.8	4.7	4.1	4.8
Structures	-12.3	-2.7	-4.3	-15.2	0.1	-2.1	12.0	-1.9	3.6	4.9	5.2	5.5	6.0	6.3	6.5	6.7	10.3	-4.4	-2.9	3.7	5.3
Residential Construction	13.4	14.8	12.6	11.5	7.8	-7.8	-4.1	9.6	10.5	6.7	6.5	6.3	5.8	5.6	5.4	5.4	3.5	11.7	4.9	5.7	5.9
Government Purchases	2.6	3.2	1.9	1.0	1.6	-1.7	0.8	0.2	-0.1	1.3	1.2	1.3	1.8	1.7	1.5	1.4	-0.9	1.8	0.8	0.5	1.5
Net Exports	-521.2	-524.9	-547.1	-566.6	-566.3	-558.5	-522.2	-605.0	-601.7	-617.0	-631.2	-647.0	-668.2	-691.8	-714.2	-734.9	-425.7	-540.0	-563.0	-624.2	-702.3
Pct. Point Contribution to GDP	-1.7	-0.1	-0.5	-0.5	0.0	0.2	0.9	-1.8	0.1	-0.4	-0.3	-0.4	-0.5	-0.5	-0.5	-0.5	-0.1	-0.7	-0.1	-0.4	-0.5
Inventory Change	114.4	93.8	70.9	56.9	40.7	-9.5	7.1	49.6	30.0	45.0	50.0	50.0	50.0	50.0	50.0	50.0	57.7	84.0	22.0	43.8	50.0
Pct. Point Contribution to GDP	1.0	-0.5	-0.6	-0.4	-0.4	-1.2	0.5	1.0	-0.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	0.2	-0.4	0.1	0.0
Nominal GDP (a)	2.1	4.9	3.2	1.8	1.3	3.7	5.0	4.2	3.5	4.4	4.6	4.5	4.8	5.0	5.1	5.4	4.2	3.7	3.0	4.2	4.8
Real Final Sales	1.0	3.2	2.6	1.2	1.3	2.6	3.0	1.1	1.7	2.5	2.4	2.3	2.5	2.6	2.7	2.6	2.5	2.4	2.0	2.1	2.5
Retail Sales (b)	2.9	2.0	2.3	2.0	2.5	2.7	2.6	4.2	5.8	4.9	5.0	4.2	4.1	4.8	5.3	5.8	4.1	2.3	3.0	5.0	5.0
Inflation Indicators (b)																					
PCE Deflator	0.3	0.3	0.3	0.4	0.9	1.0	1.0	1.4	2.0	1.9	2.0	2.0	2.0	2.2	2.3	2.4	1.5	0.3	1.1	2.0	2.2
"Core" PCE Deflator	1.4	1.4	1.3	1.4	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.9	2.0	2.1	2.1	2.2	1.6	1.4	1.7	1.8	2.1
Consumer Price Index	-0.1	0.0	0.1	0.4	1.1	1.1	1.1	1.8	2.7	2.4	2.5	2.4	2.1	2.4	2.5	2.5	1.6	0.1	1.3	2.5	2.4
"Core" Consumer Price Index	1.7	1.8	1.8	2.0	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.2	2.4	2.5	2.5	1.7	1.8	2.2	2.3	2.4
Producer Price Index (Final Demand)	-0.5	-0.8	-0.9	-1.3	0.0	0.1	0.2	1.3	2.1	2.1	2.4	2.4	2.0	2.1	2.2	2.2	1.6	-0.9	0.4	2.3	2.1
Employment Cost Index	2.6	2.0	2.0	2.0	1.9	2.3	2.3	2.2	2.5	2.6	2.8	2.9	2.9	2.9	3.0	3.0	2.1	2.1	2.2	2.7	3.0
Real Disposable Income (a)	2.0	3.9	3.3	3.0	2.1	2.9	2.9	2.0	2.1	2.3	2.2	2.0	3.4	3.5	3.5	3.4	3.5	3.5	2.8	2.3	3.0
Nominal Personal Income (b)	4.8	4.6	4.2	3.9	3.6	3.4	3.6	3.7	4.4	4.2	4.1	4.0	4.2	4.6	4.7	4.9	5.2	4.4	3.6	4.2	4.6
Industrial Production (a)	-3.3	-4.0	0.4	-3.7	-1.3	-0.7	0.8	0.8	2.2	3.2	2.4	2.4	2.4	2.2	2.3	2.1	3.1	-0.7	-1.2	1.8	2.4
Capacity Utilization	77.8	76.8	76.7	76.0	75.8	75.7	75.8	75.8	76.0	76.6	76.6	76.7	76.8	76.9	77.0	77.1	78.6	76.8	75.8	76.5	76.9
Corporate Profits Before Taxes (b)	7.5	-2.8	-4.5	-11.2	-6.6	-4.3	2.1	9.3	3.8	3.6	3.2	3.1	3.0	3.0	2.9	2.9	5.9	-3.0	-0.1	3.4	2.9
Corporate Profits After Taxes	7.9	-2.9	-6.0	-18.3	-6.5	-5.8	0.6	15.7	3.1	2.8	2.6	2.5	3.9	3.8	3.8	3.8	3.5	-5.3	0.5	2.7	3.8
Federal Budget Balance (c)	-263	123	-123	-214	-245	60	-186	-208	-314	30	-158	-250	-265	-160	-275	-250	-484	-439	-586	-650	-950
Current Account Balance (d)	-114.5	-111.9	-123.1	-113.4	-133.1	-119.7	-116.0	-112.4	-130.0	-135.0	-140.0	-145.0	-150.0	-160.0	-170.0	-175.0	-392.1	-463.0	-481.2	-550.0	-655.0
Trade Weighted Dollar Index (e)	92.1	90.0	92.3	94.5	89.8	90.6	90.0	95.8	94.0	96.3	97.0	99.3	99.3	98.3	96.8	95.3	78.4	91.1	91.6	96.6	97.4
Nonfarm Payroll Change (f)	186	271	170	277	196	164	239	148	178	160	155	150	150	145	145	140	250	226	187	161	145
Unemployment Rate	5.5	5.4	5.1	5.0	4.9	4.9	4.9	4.7	4.7	4.6	4.6	4.5	4.5	4.5	4.4	4.4	6.2	5.3	4.9	4.6	4.5
Housing Starts (g)	0.99	1.16	1.16	1.13	1.15	1.16	1.14	1.25	1.26	1.24	1.26	1.27	1.30	1.34	1.35	1.36	1.00	1.11	1.17	1.26	1.35
Light Vehicle Sales (h)	16.9	17.2	17.7	17.9	17.3	17.1	17.5	18.0	17.2	17.2	17.0	16.9	16.9	16.9	16.9	16.8	16.5	17.4	17.5	17.1	16.9
Crude Oil - Brent - Front Contract (i)	55.6	63.9	51.6	45.0	35.2	47.0	47.0	51.0	54.6	57.0	59.0	57.0	58.0	60.0	61.0	58.0	99.5	54.0	45.1	56.9	59.3
Quarter-End Interest Rates (j)																					
Federal Funds Target Rate	0.25	0.25	0.25	0.50	0.50	0.50	0.50	0.75	1.00	1.25	1.50	1.50	1.50	1.75	2.00	2.25	0.25	0.27	0.52	1.31	1.88
3 Month LIBOR	0.27	0.28	0.33	0.61	0.63	0.65	0.85	1.00	1.15	1.50	1.75	1.75	1.75	2.00	2.25	2.50	0.23	0.32	0.74	1.54	2.13
Prime Rate	3.25	3.25	3.25	3.50	3.50	3.50	3.50	3.75	4.00	4.25	4.50	4.50	4.50	4.75	5.00	5.25	3.25	3.27	3.52	4.31	4.88
Conventional Mortgage Rate	3.77	3.98	3.89	3.96	3.69	3.57	3.46	4.20	4.20	4.29	4.45	4.46	4.47	4.48	4.55	4.62	4.17	3.85	3.65	4.35	4.53
3 Month Bill	0.03	0.01	0.00	0.16	0.21	0.26	0.29	0.51	0.76	1.02	1.30	1.40	1.45	1.50	1.75	2.02	0.03	0.05	0.32	1.12	1.68
6 Month Bill	0.14	0.11	0.08	0.49	0.39	0.36	0.45	0.62	0.91	1.19	1.45	1.56	1.60	1.66	1.92	2.18	0.06	0.17	0.46	1.28	1.84
1 Year Bill	0.26	0.28	0.33	0.65	0.59	0.45	0.59	0.85	1.03	1.35	1.65	1.80	1.85	1.90	2.10	2.31	0.12	0.32	0.61	1.46	2.04
2 Year Note	0.56	0.64	0.64	1.06	0.73	0.58	0.77	1.20	1.27	1.75	2.05	2.15	2.20	2.26	2.41	2.56	0.46	0.69	0.83	1.81	2.36
5 Year Note	1.37	1.63	1.37	1.76	1.21	1.01	1.14	1.93	1.93	2.10	2.40	2.46	2.49	2.52	2.66	2.80	1.64	1.53	1.33	2.22	2.62
10 Year Note	1.94	2.35	2.06	2.27	1.78	1.49	1.60	2.45	2.40	2.55	2.72	2.75	2.76	2.78	2.86	2.94	2.54	2.14	1.84	2.61	2.84
30 Year Bond	2.54	3.11	2.87	3.01	2.61	2.30	2.32	3.06	3.02	3.18	3.44	3.54	3.56	3.58	3.67	3.76	3.34	2.84	2.59	3.30	3.64

Forecast as of: April 12, 2017

Notes: (a) Compound Annual Growth Rate Quarter-over-Quarter (f) Average Monthly Change  
 (b) Year-over-Year Percentage Change (g) Millions of Units - Annual Data - Not Seasonally Adjusted  
 (c) Quarterly Sum - Billions USD; Annual Data Represents Fiscal Yr. (h) Quarterly Data - Average Monthly SAAR; Annual Data - Actual Total Vehicles Sold  
 (d) Quarterly Sum - Billions USD (i) Quarterly Average of Daily Close  
 (e) Federal Reserve Major Currency Index, 1973=100 - Quarter End (j) Annual Numbers Represent Averages

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

**U.S. Administration Seems to Change Tone on Trade**

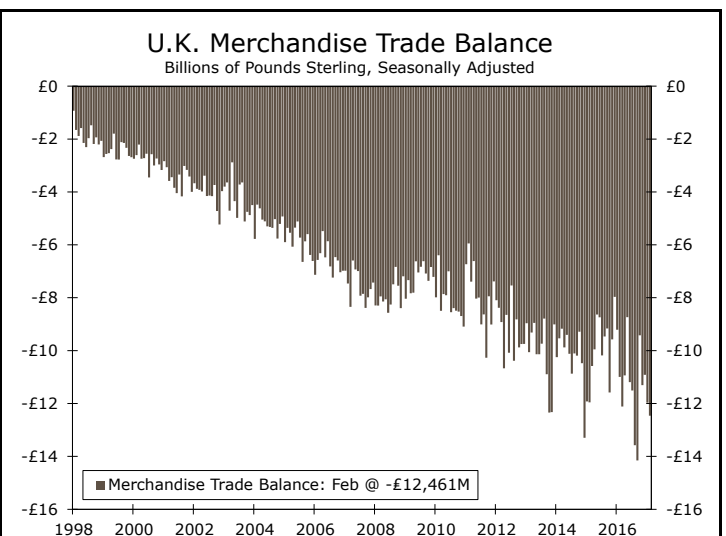
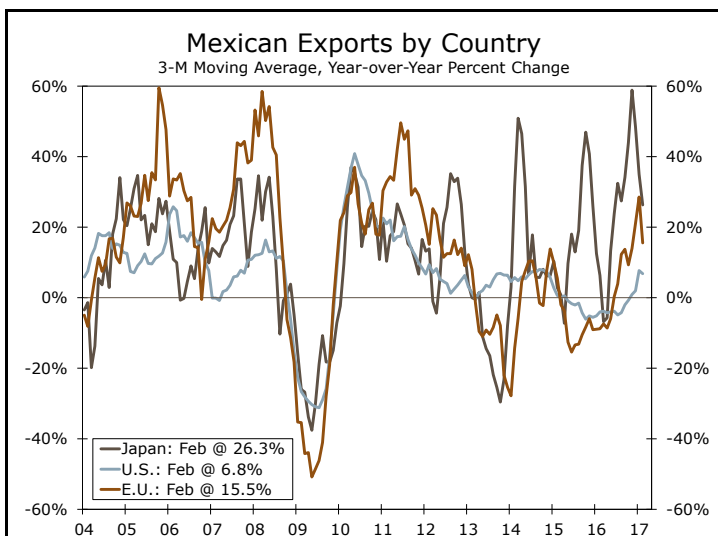
The global economic outlook has continued to improve as recent economic weakness has given way to more certainty regarding economic prospects. However, some uncertainties remain in place, especially those related to global trade, which was one of the most important drivers of economic growth during the first decade and a half of this century. One of these uncertainties has to do with the new U.S. administration’s talk against international trade. However, we have seen that the Trump administration’s position regarding trade seems to have changed or morphed into a more benign view about the changes needed for trade to benefit the U.S. economy. That is, it seems that the changes being sought on NAFTA are more cosmetic right now and the changes do not seem to represent a threat for the trade agreement’s survival. This is a breath of fresh air in the discussion regarding international trade, which has been one of the political issues that have generated great uncertainty for the global economy during the last year or so.

One of the potentially most affected countries from the Trump administration’s rhetoric regarding trade is Mexico. At the time of the November 8 presidential election, we expected the election results to generate a negative shock to Mexican economic growth and forecasted a mild recession for 2017. However, the information coming both from the Mexican economy early in 2017 and the Trump administration seems to be less taxing to the future of the Mexican economy and the trade relationship between these two neighbors. Thus, we have changed our view regarding economic growth for the Mexican economy and now have a growth rate of 1.2 percent for 2017 rather than a mild recession. Still, we believe that the Mexican economy will suffer some negative effects from the new political environment north of the Rio Grande, but those effects will be spread out over several years rather than affect the economy as a shock in 2017. A case in point was the mixed results for the Mexican economic activity index and gross fixed

investment in January. While the economic activity index was higher than expected, the details were not as positive as the headline number suggested. Meanwhile, gross fixed investment dropped in the first month of the year even though the details, in this case, were a bit better than the headline number. With this in mind, we expect a lower growth rate for the Mexican economy today than what we expected several years ago but no recession in 2017.

Still, uncertainties will remain in place for the global economy and for global trade as the policy of the Trump administration seems to be in flux today. With this in mind, Mexico is pushing forward its negotiations with the EU for an enhanced trade agreement with that region of the world. At the same time, Mexico has been looking at negotiating with Argentina and Brazil for an alternative source of corn imports, which is the most important input in the production of tortillas, a staple in Mexicans’ diets. Today, U.S. corn producers are the largest source of corn imports for the production of Mexican tortillas and are potentially one of the sectors that could be hurt the most by trade restrictions.

A second uncertainty that has been affecting the global economy has been the United Kingdom’s decision to exit the EU, or what has been called Brexit. In March the U.K. finally triggered the clause to leave the EU, a process that likely will take two years. Furthermore, the U.K. has been looking into the possibility of negotiating a free trade agreement with the United States and will probably need to do the same with many other countries as it reorients its external trade policy as an “independent” country rather than as a member of the European custom union. Thus, while there has been lots of talk about international trade lately what seems to be happening is a reorganization of trade across the globe rather than a movement away from trade, which, if true, would be a positive for the global economy.



Source: IHS Global Insight and Wells Fargo Securities

## Wells Fargo International Economic Forecast

(Year-over-Year Percent Change)

	GDP			CPI		
	2016	2017	2018	2016	2017	2018
Global (PPP Weights)	3.0%	3.2%	3.3%	3.1%	3.3%	3.6%
Global (Market Exchange Rates)	2.7%	3.0%	3.1%	3.1%	3.3%	3.6%
Advanced Economies <sup>1</sup>	1.8%	2.1%	2.3%	0.7%	2.0%	2.0%
United States	1.6%	2.1%	2.5%	1.3%	2.5%	2.4%
Eurozone	1.7%	1.8%	2.0%	0.2%	1.7%	1.8%
United Kingdom	1.8%	1.8%	1.7%	0.7%	2.3%	2.1%
Japan	1.0%	1.3%	0.9%	-0.1%	-0.1%	0.7%
Korea	2.8%	2.6%	2.7%	1.0%	2.1%	1.7%
Canada	1.4%	2.2%	1.9%	1.4%	1.8%	2.1%
Developing Economies <sup>1</sup>	4.2%	4.3%	4.3%	5.5%	4.7%	5.3%
China	6.7%	6.3%	5.8%	2.0%	1.6%	2.2%
India <sup>2</sup>	7.9%	7.1%	7.2%	5.0%	4.1%	5.5%
Mexico	2.3%	1.2%	1.9%	2.8%	5.5%	4.5%
Brazil	-3.6%	0.7%	1.9%	8.7%	4.7%	5.1%
Russia	-0.2%	1.5%	2.1%	7.1%	4.2%	4.5%

Forecast as of: April 12, 2017

<sup>1</sup>Aggregated Using PPP Weights<sup>2</sup>Forecasts Refer to Fiscal Year

## Wells Fargo International Interest Rate Forecast

(End of Quarter Rates)

	3-Month LIBOR						10-Year Bond					
	2017			2018			2017			2018		
	Q2	Q3	Q4	Q1	Q2	Q3	Q2	Q3	Q4	Q1	Q2	Q3
U.S.	1.50%	1.75%	1.75%	1.75%	2.00%	2.25%	2.55%	2.72%	2.75%	2.76%	2.78%	2.86%
Japan	0.00%	0.00%	0.00%	0.02%	0.02%	0.03%	0.05%	0.07%	0.10%	0.12%	0.15%	0.20%
Euroland <sup>1</sup>	-0.35%	-0.35%	-0.32%	-0.25%	-0.10%	0.10%	0.40%	0.50%	0.60%	0.80%	1.00%	1.10%
U.K.	0.35%	0.35%	0.40%	0.45%	0.65%	0.70%	1.25%	1.40%	1.60%	1.75%	1.90%	2.00%
Canada <sup>2</sup>	0.95%	0.95%	1.15%	1.15%	1.40%	1.40%	1.75%	1.90%	2.00%	2.10%	2.20%	2.25%

Forecast as of: April 12, 2017

<sup>1</sup> 10-year German Government Bond Yield<sup>2</sup> 3-Month Canada Bankers' Acceptances

## Wells Fargo Securities Economics Group

Diane Schumaker-Krieg	Global Head of Research, Economics & Strategy	(704) 410-1801 (212) 214-5070	diane.schumaker@wellsfargo.com
John E. Silvia, Ph.D.	Chief Economist	(704) 410-3275	john.silvia@wellsfargo.com
Mark Vitner	Senior Economist	(704) 410-3277	mark.vitner@wellsfargo.com
Jay H. Bryson, Ph.D.	Global Economist	(704) 410-3274	jay.bryson@wellsfargo.com
Sam Bullard	Senior Economist	(704) 410-3280	sam.bullard@wellsfargo.com
Nick Bennenbroek	Currency Strategist	(212) 214-5636	nicholas.bennenbroek@wellsfargo.com
Anika R. Khan	Senior Economist	(212) 214-8543	anika.khan@wellsfargo.com
Eugenio J. Alemán, Ph.D.	Senior Economist	(704) 410-3273	eugenio.j.aleman@wellsfargo.com
Azhar Iqbal	Econometrician	(704) 410-3270	azhar.iqbal@wellsfargo.com
Tim Quinlan	Senior Economist	(704) 410-3283	tim.quinlan@wellsfargo.com
Eric Viloría, CFA	Currency Strategist	(212) 214-5637	eric.viloria@wellsfargo.com
Sarah House	Economist	(704) 410-3282	sarah.house@wellsfargo.com
Michael A. Brown	Economist	(704) 410-3278	michael.a.brown@wellsfargo.com
Jamie Feik	Economist	(704) 410-3291	jamie.feik@wellsfargo.com
Erik Nelson	Currency Strategist	(212) 214-5652	erik.f.nelson@wellsfargo.com
Misa Batcheller	Economic Analyst	(704) 410-3060	misa.n.batcheller@wellsfargo.com
Michael Pugliese	Economic Analyst	(704) 410-3156	michael.d.pugliese@wellsfargo.com
Julianne Causey	Economic Analyst	(704) 410-3281	julianne.causey@wellsfargo.com
E. Harry Pershing	Economic Analyst	(704) 410-3034	edward.h.pershing@wellsfargo.com
Donna LaFleur	Executive Assistant	(704) 410-3279	donna.lafleur@wellsfargo.com
Dawne Howes	Administrative Assistant	(704) 410-3272	dawne.howes@wellsfargo.com

Wells Fargo Securities Economics Group publications are produced by Wells Fargo Securities, LLC, a U.S. broker-dealer registered with the U.S. Securities and Exchange Commission, the Financial Industry Regulatory Authority, and the Securities Investor Protection Corp. Wells Fargo Securities, LLC, distributes these publications directly and through subsidiaries including, but not limited to, Wells Fargo & Company, Wells Fargo Bank N.A., Wells Fargo Advisors, LLC, Wells Fargo Securities International Limited, Wells Fargo Securities Asia Limited and Wells Fargo Securities (Japan) Co. Limited. Wells Fargo Securities, LLC, is registered with the Commodities Futures Trading Commission as a futures commission merchant and is a member in good standing of the National Futures Association. Wells Fargo Bank, N.A. is registered with the Commodities Futures Trading Commission as a swap dealer and is a member in good standing of the National Futures Association. Wells Fargo Securities, LLC, and Wells Fargo Bank, N.A. are generally engaged in the trading of futures and derivative products, any of which may be discussed within this publication. Wells Fargo Securities, LLC does not compensate its research analysts based on specific investment banking transactions. Wells Fargo Securities, LLC's research analysts receive compensation that is based upon and impacted by the overall profitability and revenue of the firm which includes, but is not limited to investment banking revenue. The information and opinions herein are for general information use only. Wells Fargo Securities, LLC does not guarantee their accuracy or completeness, nor does Wells Fargo Securities, LLC assume any liability for any loss that may result from the reliance by any person upon any such information or opinions. Such information and opinions are subject to change without notice, are for general information only and are not intended as an offer or solicitation with respect to the purchase or sales of any security or as personalized investment advice. Wells Fargo Securities, LLC is a separate legal entity and distinct from affiliated banks and is a wholly owned subsidiary of Wells Fargo & Company © 2017 Wells Fargo Securities, LLC.

### Important Information for Non-U.S. Recipients

For recipients in the EEA, this report is distributed by Wells Fargo Securities International Limited ("WFSIL"). WFSIL is a U.K. incorporated investment firm authorized and regulated by the Financial Conduct Authority. The content of this report has been approved by WFSIL a regulated person under the Act. For purposes of the U.K. Financial Conduct Authority's rules, this report constitutes impartial investment research. WFSIL does not deal with retail clients as defined in the Markets in Financial Instruments Directive 2007. The FCA rules made under the Financial Services and Markets Act 2000 for the protection of retail clients will therefore not apply, nor will the Financial Services Compensation Scheme be available. This report is not intended for, and should not be relied upon by, retail clients. This document and any other materials accompanying this document (collectively, the "Materials") are provided for general informational purposes only.

SECURITIES: NOT FDIC-INSURED/NOT BANK-GUARANTEED/MAY LOSE VALUE

WELLS  
FARGO

SECURITIES