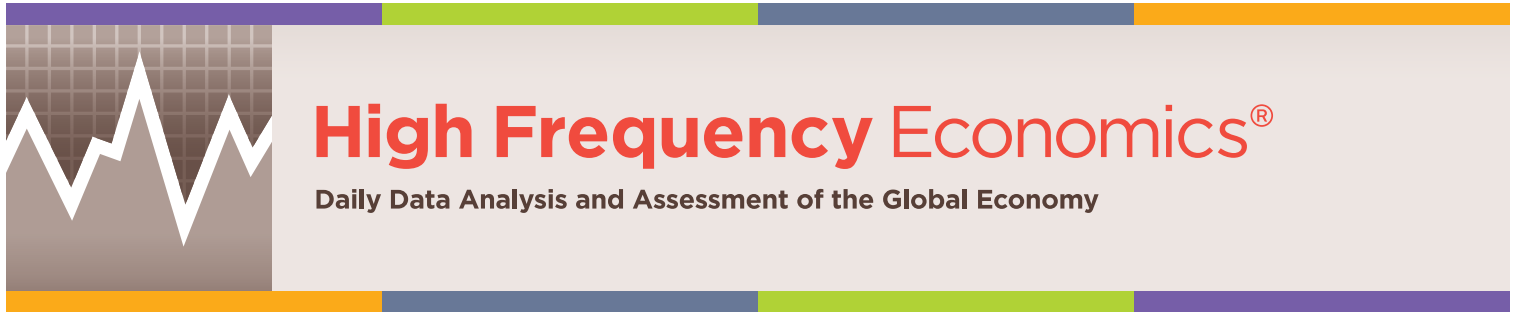


**Watch What China Is Doing, Not How It Is Doing  
...And Don't Worry, The Rest Of The World Is Doing Worse!**

**- Carl Weinberg, Chief International Economist**

**Fed To Keep Tightening As Labor Market Keeps Tightening**

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**Watch What China Is Doing, Not How It Is Doing  
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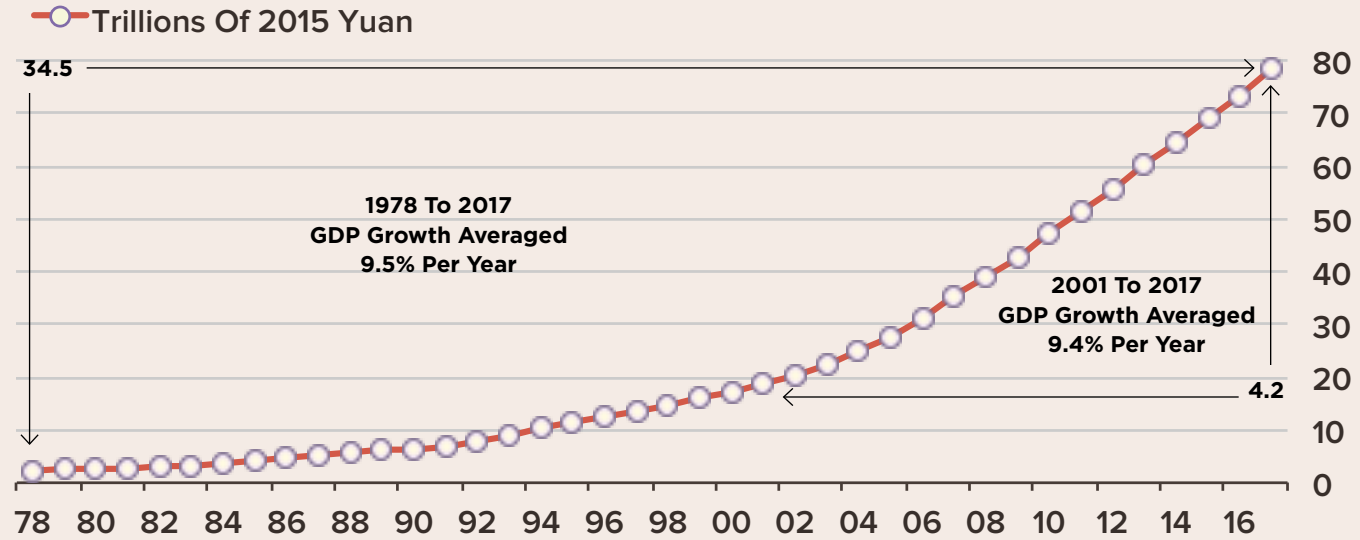
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### China: GDP





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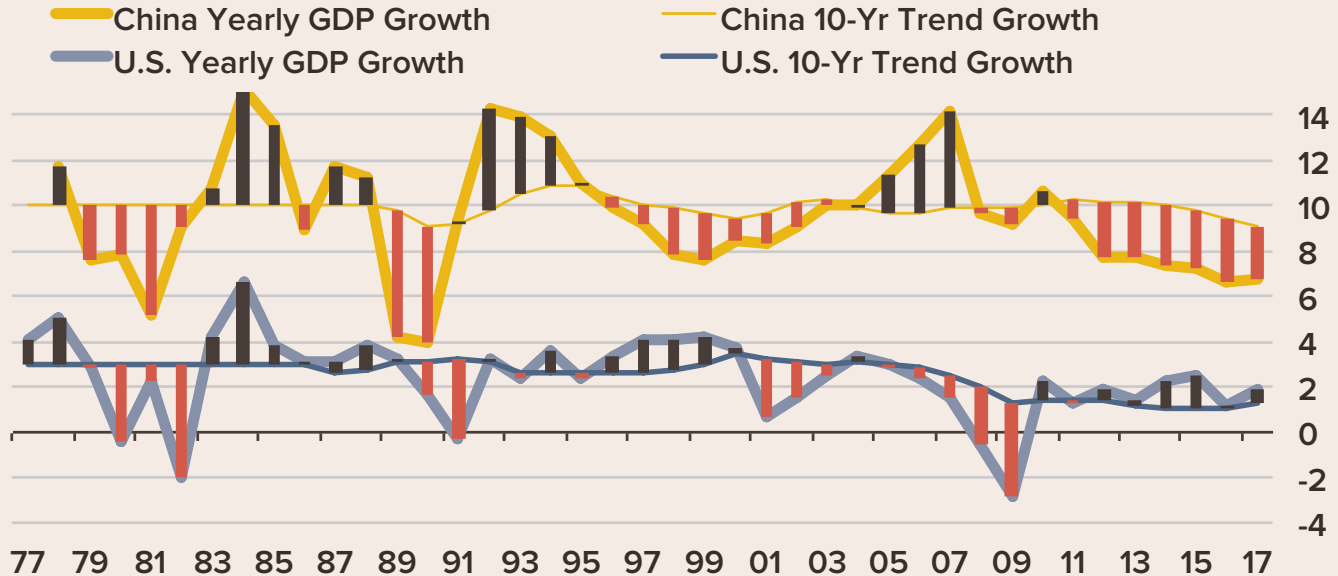
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### China: Economic Cycle Defined By Growth Vs Potential





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## **China's Tactics**

### **Patience**

**Trump Is Not Forever... Xi May Be**

### **Persistence**

**Pursue Made-In-China 2025 Goals, Develop Silk Road  
Entice Europe And Other U.S. Allies Into New Sino-Deals  
Petro-Yuan Brings China Reserve Currency Status**

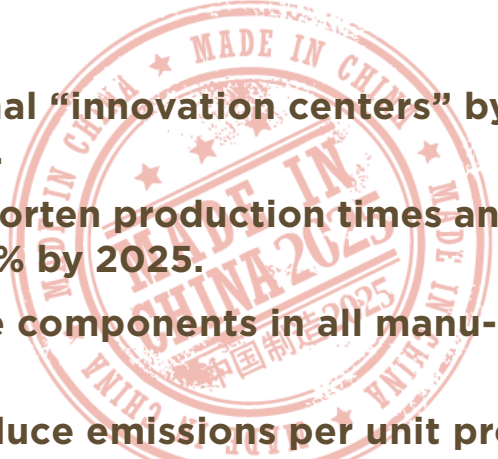
### **Power: Control South & East China Sea**

**Lever U.S. Naval Power Out, Tap South Korea Technology**



## Made In China 2025

- **Research and development:** Establish 15 national “innovation centers” by 2020 and 40 by 2025, to develop technologies.
- **Manufacture smarter:** Lower operating costs, shorten production times and slash defect rates, each by 30% by 2020 and 50% by 2025.
- **Industrial self sufficiency:** Produce 40% of core components in all manufacturing by 2020, 70% by 2025.
- **Environmental responsibility:** In all sectors, reduce emissions per unit produced by 20%, lower energy use per unit of output below world average by 2025 and build 1,000 green factories by 2025.
- **Build significant shares of global manufacturing of ten sectors:**  
Aerospace, rail, high-tech autos, hi-tech marine, power grids, machine tools, nuclear plants and equipment, medical equipment.





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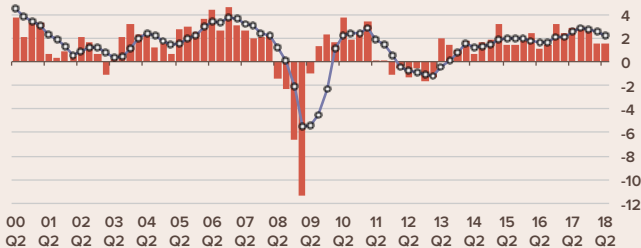
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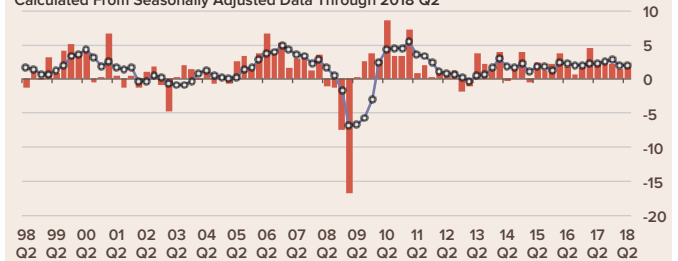
### Euro Zone: GDP

Seasonally Adjusted Annual Rate (Bar) and Percent Change Year Ago (Line)  
Calculated From Seasonally Adjusted Data Through 2018 Q2



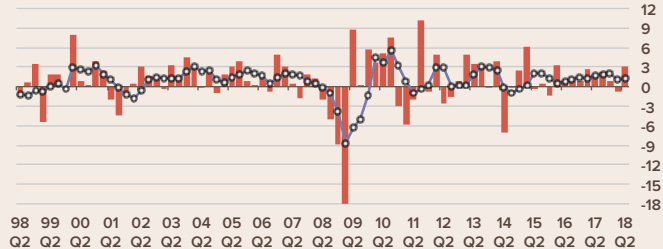
### Germany: GDP

Seasonally Adjusted Annual Rate (Bar) and Percent Change Year Ago (Line)  
Calculated From Seasonally Adjusted Data Through 2018 Q2



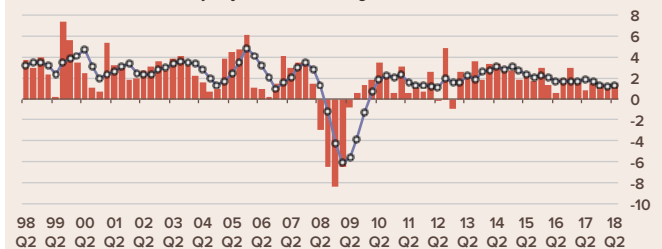
### Japan: GDP

Seasonally Adjusted Annual Rate (Bar) and Percent Change Year Ago (Line)  
Calculated From Seasonally Adjusted Data Through 2018 Q2



### United Kingdom: GDP

Seasonally Adjusted Annual Rate (Bar) and Percent Change Year Ago (Line)  
Calculated From Seasonally Adjusted Data Through 2018 Q2







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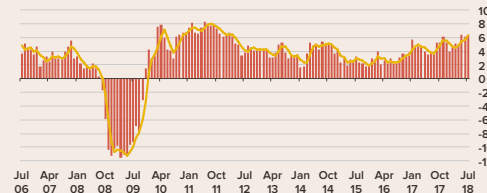
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**Retail sales are slowing in most economies, outside the United States.** *HFE traces the roots of weak consumer spending to low real wage gains. Rising energy prices threaten squeeze out demand for other goods and services. Consumer spending is 2/3 of total demand in most economies.*

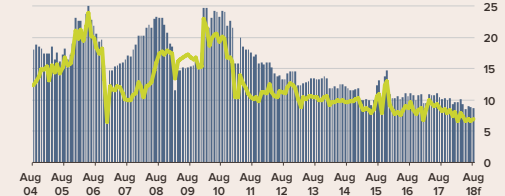
### United States: Retail Sales, Percent Change Year Ago

Line Shows Yearly Change Of 3-Month Moving Average



### China: Retail Sales, Percent Change Year Ago

Green Line Shows CPI-Adjusted Sales



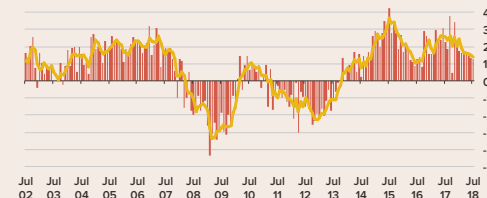
### Germany: Retail Sales Ex-Cars Index, Percent Change Year Ago

Excluding Autos And Petrol, Line Shows Three-Month Moving Averages



### Euro Zone: Retail Sales, Percent Change Year Ago

Line Shows Three-Month Moving Average Year-Over-Year



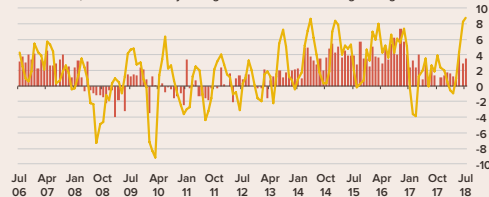
### Japan: Retail Sales Volume, Percent Change Year Ago

Seasonally Adjusted Monthly Index, 2005=100, Blue Line Is 3-Month Change Annualized



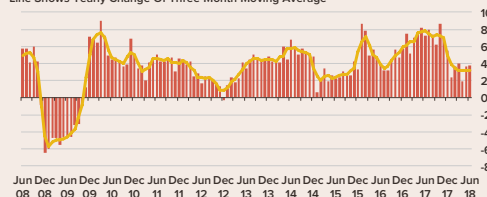
### United Kingdom: Retail Sales, Percent Change Year Ago

Volume Index, Line Shows Yearly Change Of Three-Month Moving Average



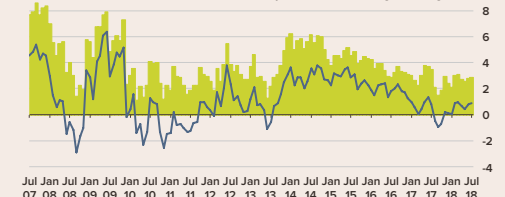
### Canada: Retail Sales, Percent Change Year Ago

Line Shows Yearly Change Of Three-Month Moving Average



### Australia: Retail Sales, Percent Change Year Ago

Blue Line Shows Real Sales Volumes Calculated By HFE, Percent Change Year Ago





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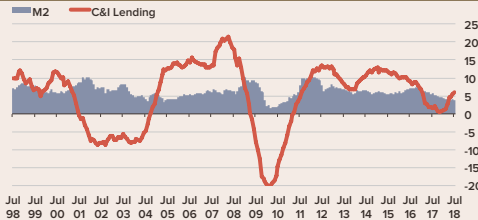
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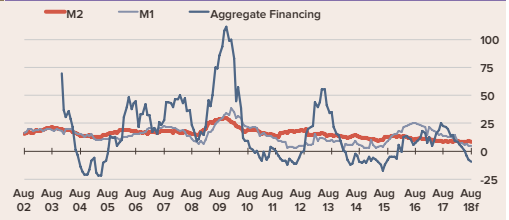
**Bank lending is slow and/or slowing everywhere at once!** HFE has explanations for each case, so this appears to be a coincidence rather than synchronized slow-down. However, simultaneous contractions of lending everywhere in the advanced economies at onces is an unfortunate coincidence, a drag on economic growth.

In the special case of Britain, where a supply shock looms, an argument can be made for **easing monetary conditions** over the next year. In other countries, low credit growth with inflation metrics near target and steady wages mean no tightening of monetary conditions is needed. Central banks may tighten anyway to normalize monetary conditions before another shock.

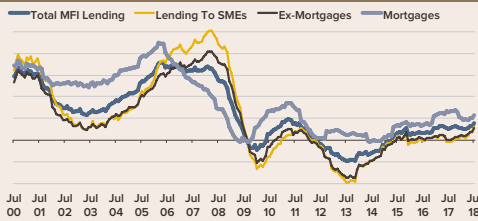
United States: Money And Credit, Percent Change Year Ago



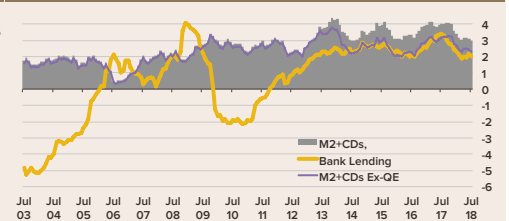
China: Money And Credit, Percent Change Year Ago



Euro Zone: Bank Lending, Percent Change Year Ago

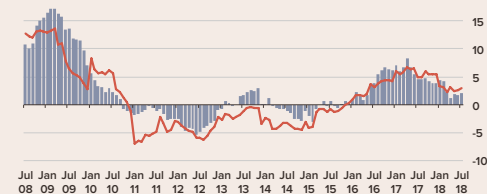


Japan: Money And Credit, Percent Change Year Ago

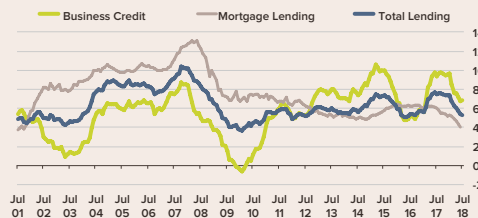


United Kingdom: Growth Of Broad Money And Credit

Bars Are M4, Red Line Shows M4 Lending, Percent Change Year Ago

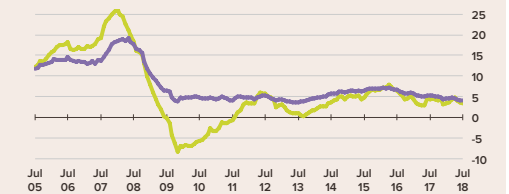


Canada: Measures Of Credit, Percent Change Year Ago



Australia: Domestic Credit, Percent Change Year Ago

Purple Line Is Total Credit, Green Line Is Business Credit





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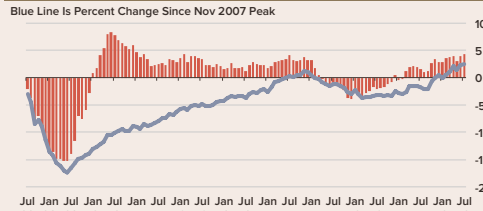
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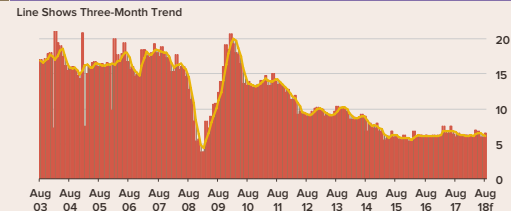
Carl B. Weinberg, Chief International Economist

**Industrial production does not look so hot outside the U.S.!** Industrial output is flat in Germany and Euroland, grinding to a halt in Japan, and stumbling in Canada. Outside North America, there is no sign of slack exhaustion: Production was higher a decade ago, before the global financial crisis, than last month.

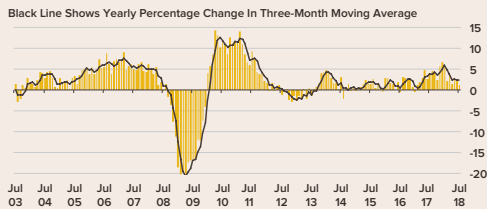
### United States: Industrial Production, Percent Change Year Ago



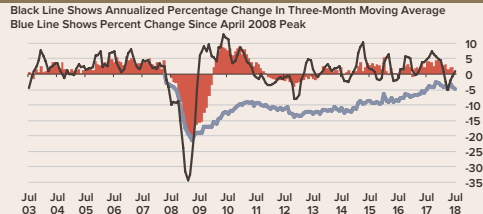
### China: Industrial Production, Percent Change Year Ago



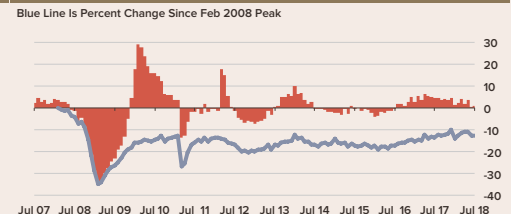
### Germany: Industrial Production, Percent Change Year Ago



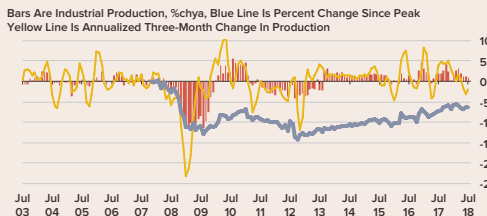
### Euro Zone: Industrial Production, Percent Change Year Ago



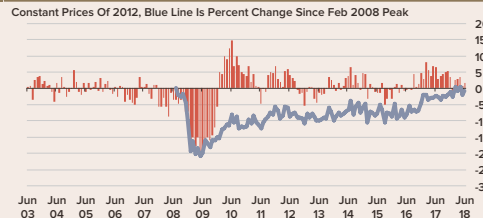
### Japan: Industrial Production, Percent Change Year Ago



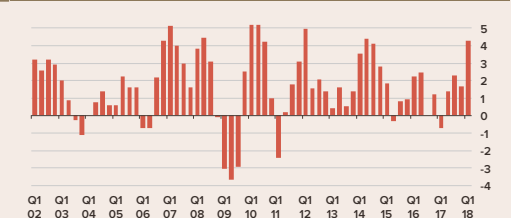
### United Kingdom: Industrial Production



### Canada: Manufacturing Output, Percent Change Year Ago



### Australia: Industrial Production, Percent Change Year Ago





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## **EM Hot Spots Threaten Contagion ...Even To Advanced Economies**

**BBVA Linked To Turkish Banks**

**Santander And Other Spanish Banks Linked  
To BBVA**

**Spanish Banks All Linked To Euro Zone  
Banks Via Target2**

**Perception Of EM Risk Linkage Is More  
Important Than Reality**



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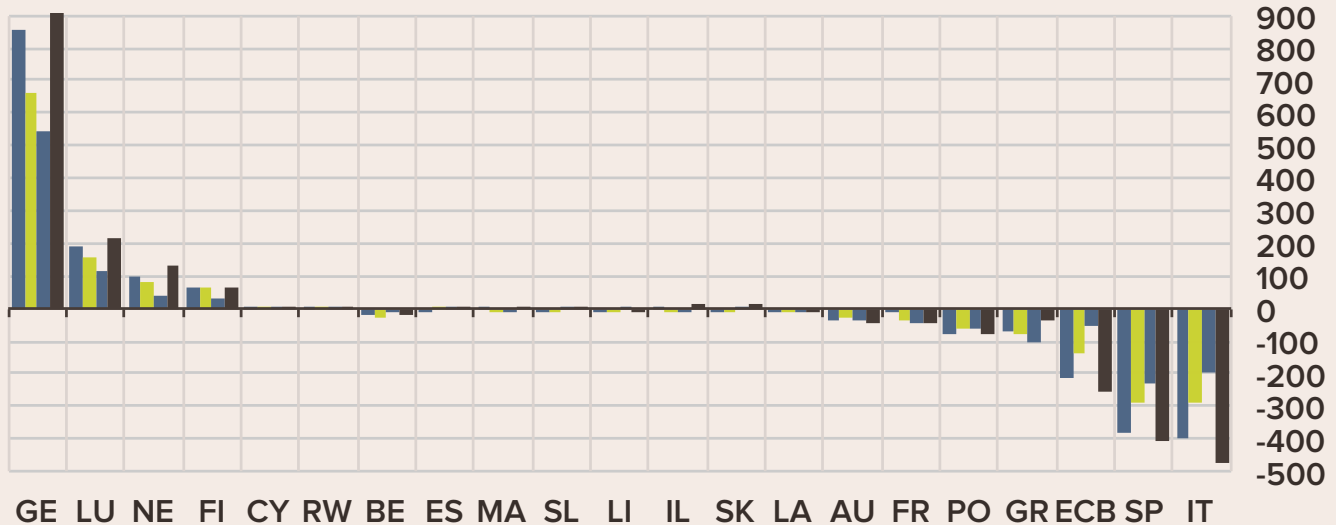
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### TARGET2: Net National Balances, Billion Of Euros

■ July 2015   ■ July 2016   ■ July 2017   ■ July 2018





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**Fed To Keep Tightening As Labor Market Keeps Tightening**

**- Jim O'Sullivan, Chief Economist**



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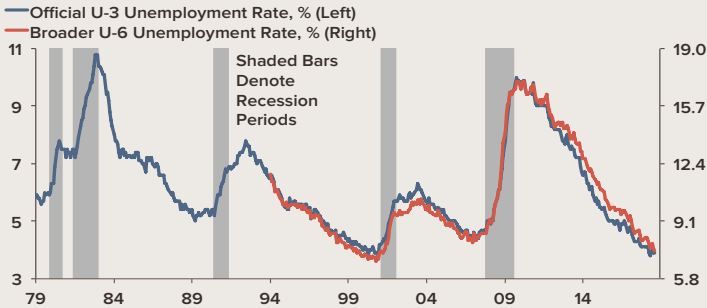
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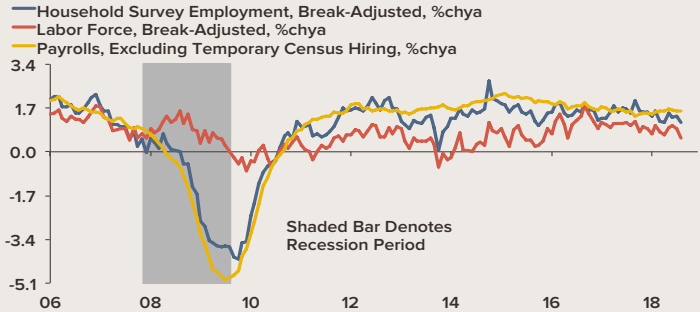
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### 1a. Unemployment Measures Continue To Trend Down



### 1b. ...As Job Growth Keeps Outpacing Labor Force Growth





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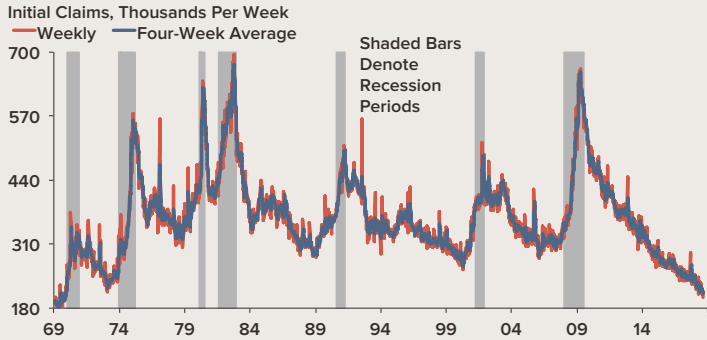
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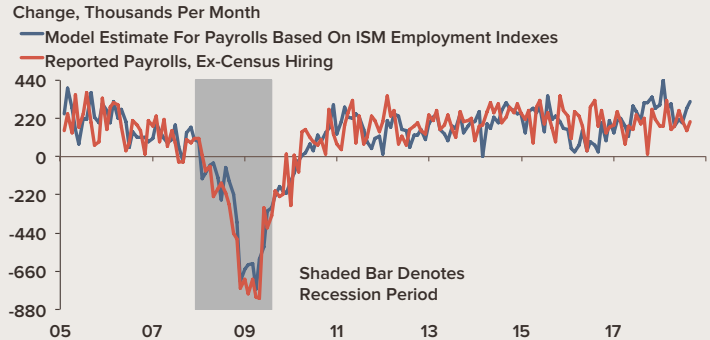
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### 2a. No Sign Of Weakening In Jobless Claims



### 2b. ...Or The ISM Surveys







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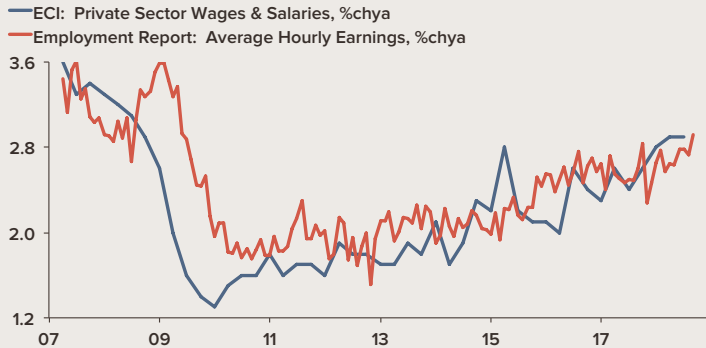
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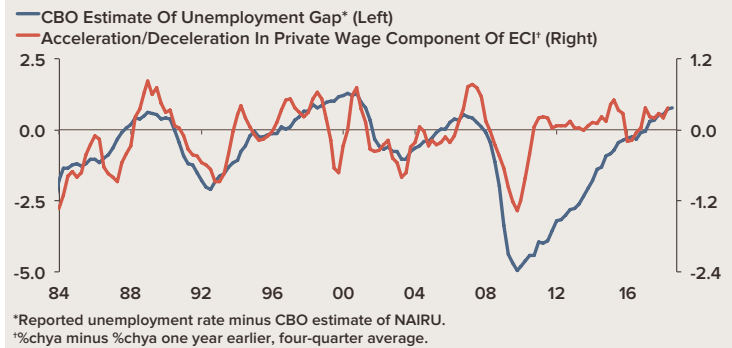
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### 3a. Wage Gains Have Been Accelerating



### 3b. ...Consistent With The NAIRU Framework





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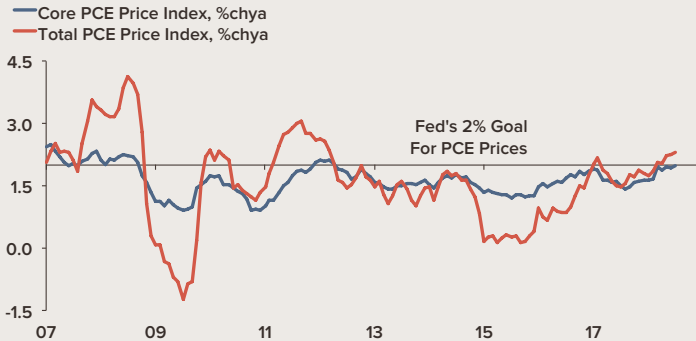
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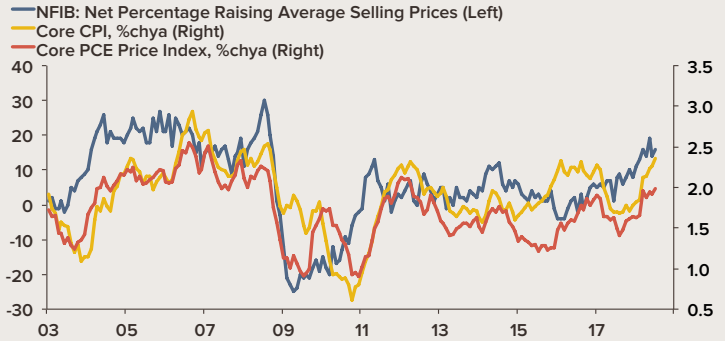
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### 4a. Mission Accomplished For Fed? Core PCE Inflation At 2.0%



### 4b. ...NFIB Inflation Series Is Signaling A Pick-Up In The Trend





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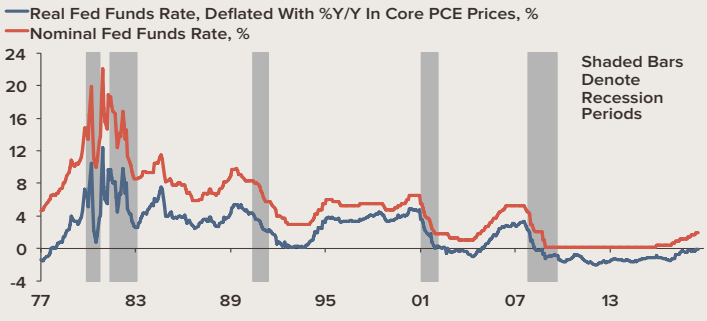
Jim O'Sullivan, Chief Economist

### 5a. Fed Officials' Estimates For Appropriate Fed Funds Rate

% At Year-End, as of June 2018 FOMC Meeting

	2018	2019	2020	Longer Run
Median Estimate	2.375	3.125	3.375	2.875
Mean Estimate	2.242	2.958	3.308	2.825

### 5c. Recent Recessions Have Been Preceded By Fed Tightening



### 5b. Fed Officials' Economic Projections

Median, %ch Q4/Q4, Unless Noted, as of June 2018 FOMC Meeting

	2018	2019	2020	Longer Run
Real GDP	2.8	2.4	2.0	1.8
Unemployment Rate*	3.6	3.5	3.5	4.5
PCE Prices	2.1	2.1	2.1	2.0
Core PCE Prices	2.0	2.1	2.1	

\*Q4 level

### 5d. Fed Tightening Cycles

Start	End	Nominal Funds Rate Target (%)		Real Funds Rate (%)*	
		Start	End	Start	End
Mar 83	Aug 84	8.50	11.50	2.6	7.5
Apr 87	Feb 89	6.00	9.75	3.2	5.1
Feb 94	Feb 95	3.00	6.00	0.8	3.7
Jun 99	May 00	4.75	6.50	3.5	4.8
Jun 04	Jun 06	1.00	5.25	-0.9	2.9
Dec 15		0.13		-1.3	

\*Deflated with %chya in core PCE prices.



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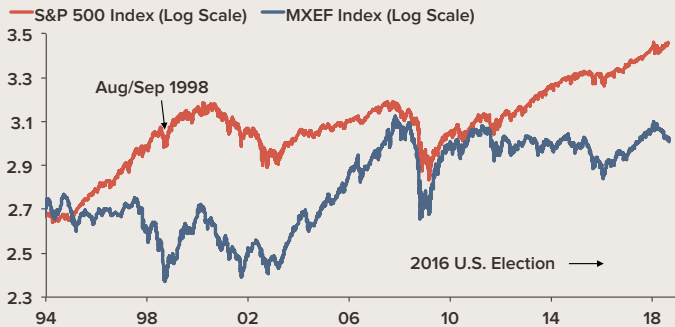
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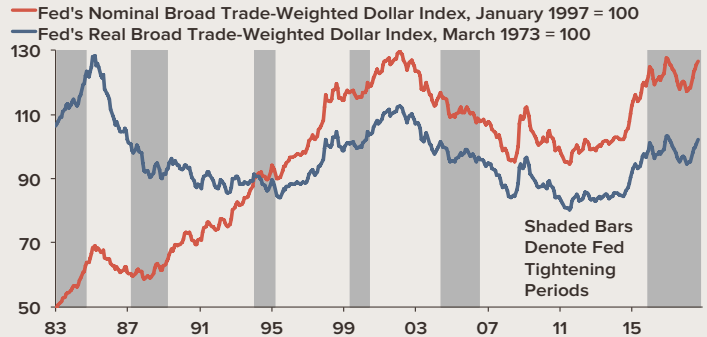
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### 6a. Stress In Emerging Markets Has Not Spread To U.S. Markets



### 6b. The Dollar Has Been Rising





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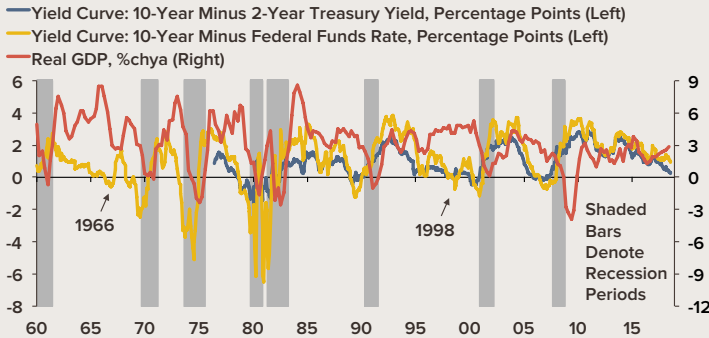
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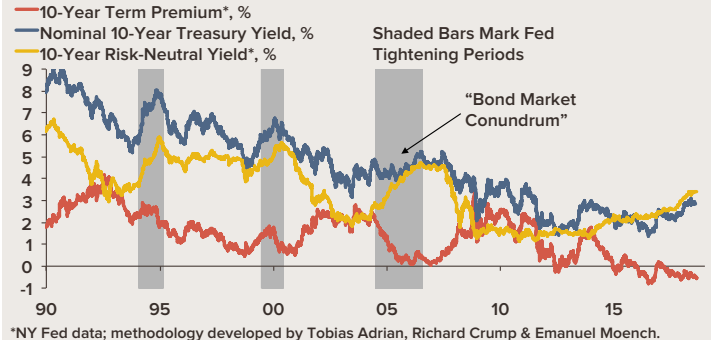
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### 7a. Yield Curve: A Good, But Not Infallible Recession Indicator



### 7b. Bond Market Term Premiums Are Historically Low





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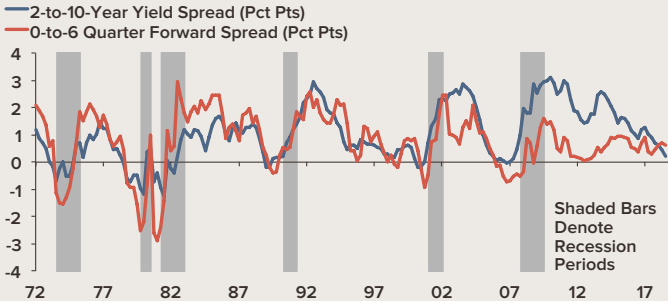
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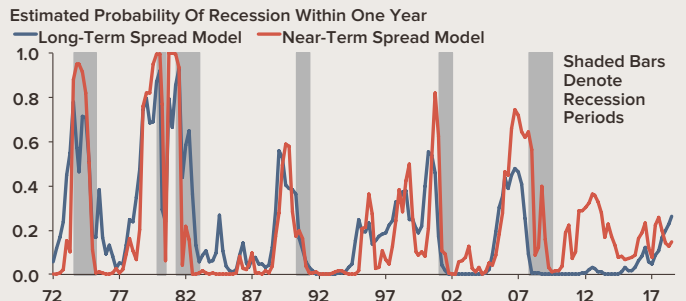
Jim O'Sullivan, Chief Economist

### 8a. Near-Term Yield Curve Spread Has Been Quite Stable



Note: Chart replicated from "(Don't Fear) The Yield Curve," a paper written by Fed economists Eric Engstrom and Steve Sharpe; most recent 0-6 quarter forward spread estimated by HFE.

### 8b. Yield Curve Models Still Signaling Low Recession Probability



Note: Chart replicated from "(Don't Fear) The Yield Curve," a paper written by Fed economists Eric Engstrom and Steve Sharpe; most recent readings estimated by HFE.



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### 9. Peak In Leading Indicator Versus Business Cycle Peak (In Months)

Months Before (-) Or After (+) Business Cycle Peak

	Business Cycle Peak								
	Apr 60	Dec 69	Nov 73	Jan 80	Jul 81	Jul 90	Mar 01	Dec 07	Median
Overall Index	NA	-8	-9	-15	-8	-17	-11	-21	-11
Manufacturing Workweek	-11	-8	-8	-10	-2	-15	-11	-1	-8
Jobless Claims	-12	-7	-9	-21	-4	-18	-12	-22	-12
Manufacturing ISM New Orders	1	1	10	-7	0	-13	-7	-1	-1
Orders: Nondefense Capital Goods Ex Aircraft	-13	-3	8	-10	-3	-13	-9	-15	-9
<b>Housing Permits</b>	<b>-17</b>	<b>-10</b>	<b>-11</b>	<b>-19</b>	<b>-10</b>	<b>-58</b>	<b>-27</b>	<b>-27</b>	<b>-19</b>
S&P 500 Index	-9	-12	-10	NA	-8	-1	-7	-2	-8
<b>Interest Rate Spread: 10s Vs. Fed Funds</b>	<b>NA</b>	<b>-20</b>	<b>-8</b>	<b>-15</b>	<b>-9</b>	<b>-17</b>	<b>-9</b>	<b>-17</b>	<b>-15</b>
Orders: Consumer Goods & Materials	-13	-3	-8	-10	-9	-2	-14	-4	-8
Leading Credit Index							-12	-6	-9
Average Consumer Expectations				-14	-7	0	-2	-9	-7



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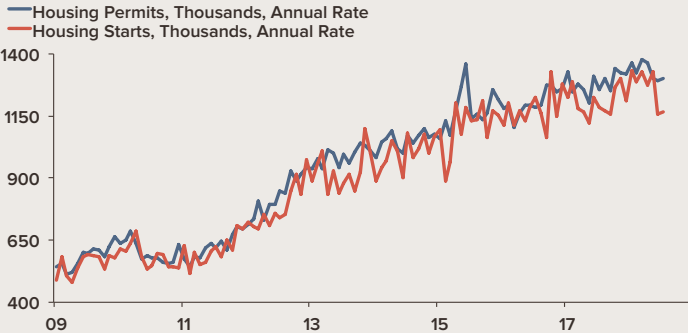
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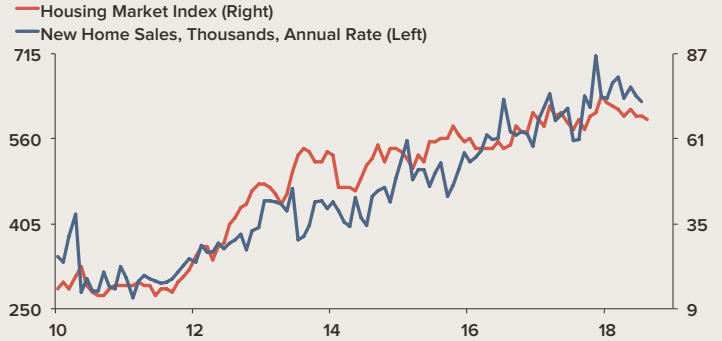
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### 10a. Plunge In Housing Starts In August Looked Exaggerated



### 10b. ...But The Housing Market Index Has Slipped A Little







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### 11a. Export Orders Index: Down From High, But Still Well Above 50



### 11b. Equities: United States Versus China





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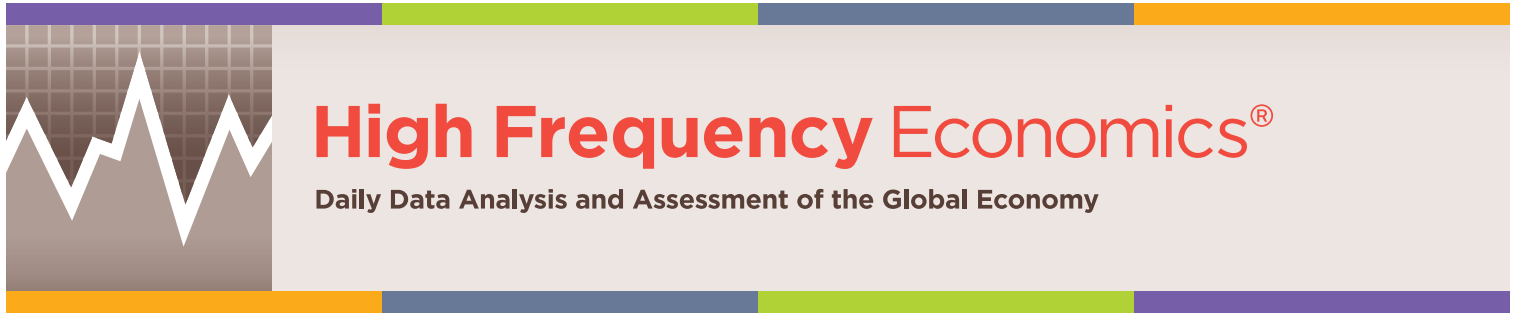
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### 12. HFE's U.S. Economic & Financial Forecasts

*%ch From Previous Period, Annual Rate, Except Where Noted; Forecasts In Bold*

	2017				2018				Calendar Average			Q4/Q4		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019	2017	2018	2019
Real GDP	1.8	3.0	2.8	2.3	2.2	4.2	<b>3.0</b>	<b>3.0</b>	2.2	<b>2.9</b>	<b>2.7</b>	2.5	<b>3.1</b>	<b>2.3</b>
CPI	3.0	0.1	2.1	3.3	3.5	1.7	<b>2.2</b>	<b>2.3</b>	2.1	<b>2.5</b>	<b>2.5</b>	2.1	<b>2.4</b>	<b>2.8</b>
Core CPI	2.2	0.8	1.8	2.2	3.0	1.8	<b>2.4</b>	<b>2.5</b>	1.8	<b>2.2</b>	<b>2.6</b>	1.7	<b>2.4</b>	<b>2.8</b>
Core PCE Prices	1.6	1.3	1.4	2.1	2.2	2.0	<b>2.0</b>	<b>2.1</b>	1.6	<b>1.9</b>	<b>2.3</b>	1.6	<b>2.1</b>	<b>2.5</b>
Unemployment (% level)	4.7	4.3	4.3	4.1	4.1	3.9	<b>3.9</b>	<b>3.6</b>	4.4	<b>3.9</b>	<b>3.4</b>	4.1	<b>3.6</b>	<b>3.3</b>
Federal Budget Balance (\$B, FY)									-666	<b>-775</b>	<b>-1100</b>			
% Of GDP									-3.5	<b>-3.9</b>	<b>-5.2</b>			
												<b>End Of Year</b>		
Fed Funds Target (% EOP)	0.88	1.13	1.13	1.38	1.63	1.88	<b>2.13</b>	<b>2.38</b>	1.0	<b>1.8</b>	<b>2.8</b>	1.38	<b>2.38</b>	<b>3.38</b>
10-Year Treasury (% EOP)	2.4	2.3	2.3	2.4	2.7	2.9	<b>3.0</b>	<b>3.2</b>	2.4	<b>2.8</b>	<b>3.4</b>	2.4	<b>3.2</b>	<b>3.7</b>
30-Year Treasury (% EOP)	3.0	2.8	2.9	2.7	3.0	3.0	<b>3.2</b>	<b>3.4</b>	2.9	<b>3.0</b>	<b>3.6</b>	2.7	<b>3.4</b>	<b>3.9</b>
S&P 500 (level, EOP)	2363	2423	2519	2674	2641	2718	<b>2800</b>	<b>2700</b>	2440	<b>2712</b>	<b>2635</b>	2674	<b>2700</b>	<b>2570</b>



**Watch What China Is Doing, Not How It Is Doing  
...And Don't Worry, The Rest Of The World Is Doing Worse!**

**- Carl Weinberg, Chief International Economist**

**Fed To Keep Tightening As Labor Market Keeps Tightening**

**- Jim O'Sullivan, Chief Economist**