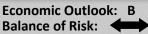


Robert A. Dye, Ph.D.

Daniel Sanabria





Fed's Gradualism Will Gradually Change

Recent fedspeak has featured the word "gradual" to describe the Fed's approach to monetary tightening. In his speech at Jackson Hole, Wyoming on August 24, Fed Chairman Jerome Powell described the two key risks of raising interest rates in an expanding economy; (1) moving too fast and shortening the expansion, and (2) moving too slow and letting inflation get out of control. Powell said, "I see the current path of gradually raising interest rates as the FOMC's approach to taking seriously both of those risks." Dallas Fed President Rob Kaplan wrote in his essay from August 21, "..we should be removing accommodation (by raising rates) in a gradual manner to get to a neutral policy stance."

So far in 2018, gradualism has meant a 25 basis point increase in the fed funds rate range every other meeting, beginning in March. After the March rate hike came the June rate hike. We expect that cadence to continue on September 26, and again on December 19 for a total of four rate hikes in 2018 over a period of eight FOMC meetings.

In looking ahead to 2019, we encounter the problem with gradualism. The problem with gradualism is that it is only a description of the pace of rate hikes. It is not a justification for rate hikes, and it offers little guidance about what will happen when conditions inevitably change. Moreover, even as Powell and the rest of the Federal Open Market Committee seek to define what they are doing, the conditions that justify gradualism are already changing.

As economist Herb Stein said succinctly, "If something can't go on forever, it will stop." What Stein's Law intuited is that the U.S. economy does not run at steady state. A quick review of historical GDP growth shows expansions and recessions. Even in long expansions, quarters of faster growth are followed by quarters of slower growth. The U.S. economy accelerates and decelerates. It does not run at a steady state.

We are concerned that after the current period of acceleration, featuring 4.2 percent real GDP growth in 2018Q2, the U.S. economy will decelerate sometime in 2019, and the Fed's gradualism will have to be redefined.

Strong job growth has fueled the economy's recent acceleration. The U.S. economy has created an average of 207,000 net new payroll jobs per month this year, through August. It is unlikely that that pace of job growth can be sustained into 2019. This year we see that there are currently more job openings than there are unemployed workers. This is the first time that has happened since the Job Openings and Labor Turnover Survey was initiated in 2000.

With available labor becoming scarce and capacity utilization running high, businesses will have to spend more on capital in order to keep expanding production. This would lift productivity growth and help alleviate the inflationary pressure from increasing wages. We saw some pickup in the rate of business investment early this year after the corporate tax law was changed. However, we have not seen a sustained industry-wide acceleration in bank lending to fund capital expansion. Rather, we are concerned that both labor and capital may eventually constrain the economy, particularly as capital becomes more expensive after two more fed funds rate hikes this year. This could be similar to what is happening in the housing market now as the limited availability of houses for sale, and their decreasing affordability appears to be keeping the market in check despite pent-up demand. Slower rest-of-world growth and U.S. fiscal contraction are also downside risks for late 2019 and early 2020.

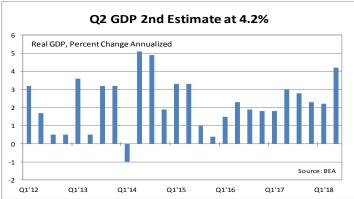
We expect the Federal Reserve to slow the every-other-meeting pace of rate hikes next year. The adoption of a press conference after every FOMC meeting will give Powell more flexibility to change the cadence of rate hikes as the Fed approaches the peak fed funds rate for this cycle by the end of 2019 or early 2020.

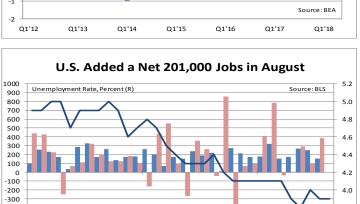
U.S. Economic Outlook, Summary											
	1Q'18a	2Q'18a	3Q'18f	4Q'18f	1Q'19f	2Q'19f	3Q'19f	4Q'19f	2017a	2018f	2019f
Real GDP (Percent Change Annualized)	2.2	4.2	3.1	3.0	2.9	2.7	2.6	2.2	2.2	2.9	2.9
CPI (Percent Change Year-over-Year)	2.3	2.6	2.6	2.3	1.9	2.0	2.0	2.0	2.1	2.4	2.0
Payroll Jobs (Average Monthly Diff., Ths.)	210.8	211.4	183.4	172.0	158.6	145.6	132.9	107.3	181.4	194.4	136.1
Unemployment Rate (Percent)	4.1	3.9	3.9	3.8	3.8	3.7	3.7	3.7	4.3	3.9	3.7
Federal Funds Rate (Effective)	1.45	1.74	1.97	2.19	2.45	2.69	2.94	3.13	1.00	1.84	2.80
10-Yr. Treasury Rate	2.76	2.92	2.91	2.94	3.11	3.29	3.60	3.75	2.33	2.88	3.44
a = actual f = forecast											

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U.S. Economic Outlook September 2018







■ Total Household Employment (L)

J'18

-400

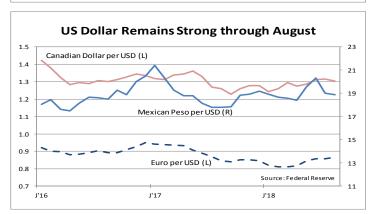
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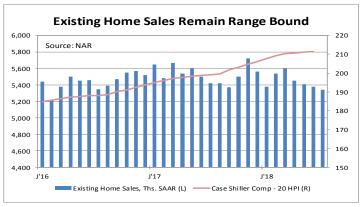
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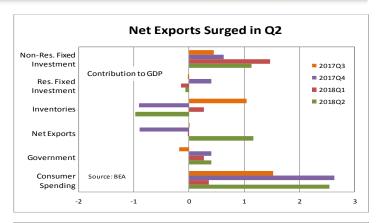
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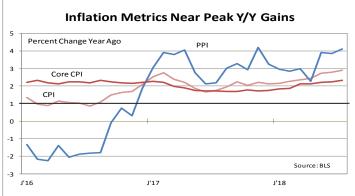
■ Total Nonfarm Employment (L)

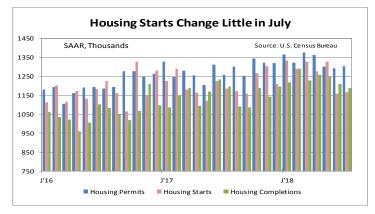
J'17

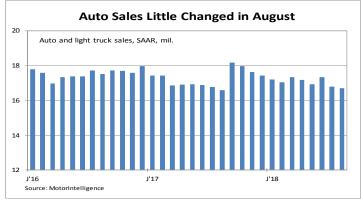












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U.S. Economic Outlook September 2018



Output Nominal GDP (Billions \$) Percent Change Annualized Real GDP (Chained 2012 Billions \$) Percent Change Annualized Pers. Consumption Expenditures Percent Change Annualized Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	20041 4.3 18324 2.2 12723 0.5 2654 11.5 615 -3.4 30 -902 3152	2Q'18a 20412 7.6 18515 4.2 12841 3.8 2709 8.5 613 -1.6 -27	3Q'18f 20692 5.6 18656 3.1 12906 2.0 2744 5.3 618	20955 5.2 18794 3.0 12981 2.3 2782 5.7	21207 4.9 18927 2.9 13056 2.3	2Q'19f 21452 4.7 19056 2.7 13129	21689 4.5 19177 2.6 13199	21910 4.1 19280 2.2 13269	2017a 19485 4.2 18051 2.2	2018f 20525 5.3 18572 2.9	2019f 21564 5.1 19110
Nominal GDP (Billions \$) Percent Change Annualized Real GDP (Chained 2012 Billions \$) Percent Change Annualized Pers. Consumption Expenditures Percent Change Annualized Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	4.3 18324 2.2 12723 0.5 2654 11.5 615 -3.4 30 -902	7.6 18515 4.2 12841 3.8 2709 8.5 613 -1.6	5.6 18656 3.1 12906 2.0 2744 5.3	5.2 18794 3.0 12981 2.3 2782	4.9 18927 2.9 13056 2.3	4.7 19056 2.7 13129	4.5 19177 2.6	4.1 19280 2.2	4.2 18051	5.3 18572	5.1
Nominal GDP (Billions \$) Percent Change Annualized Real GDP (Chained 2012 Billions \$) Percent Change Annualized Pers. Consumption Expenditures Percent Change Annualized Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	4.3 18324 2.2 12723 0.5 2654 11.5 615 -3.4 30 -902	7.6 18515 4.2 12841 3.8 2709 8.5 613 -1.6	5.6 18656 3.1 12906 2.0 2744 5.3	5.2 18794 3.0 12981 2.3 2782	4.9 18927 2.9 13056 2.3	4.7 19056 2.7 13129	4.5 19177 2.6	4.1 19280 2.2	4.2 18051	5.3 18572	5.1
Percent Change Annualized Real GDP (Chained 2012 Billions \$) Percent Change Annualized Pers. Consumption Expenditures Percent Change Annualized Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	4.3 18324 2.2 12723 0.5 2654 11.5 615 -3.4 30 -902	7.6 18515 4.2 12841 3.8 2709 8.5 613 -1.6	5.6 18656 3.1 12906 2.0 2744 5.3	5.2 18794 3.0 12981 2.3 2782	4.9 18927 2.9 13056 2.3	4.7 19056 2.7 13129	4.5 19177 2.6	4.1 19280 2.2	4.2 18051	5.3 18572	5.1
Real GDP (Chained 2012 Billions \$) Percent Change Annualized Pers. Consumption Expenditures Percent Change Annualized Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	18324 2.2 12723 0.5 2654 11.5 615 -3.4 30 -902	18515 4.2 12841 3.8 2709 8.5 613 -1.6	18656 3.1 12906 2.0 2744 5.3	18794 3.0 12981 2.3 2782	18927 2.9 13056 2.3	19056 2.7 13129	19177 2.6	19280 2.2	18051	18572	
Percent Change Annualized Pers. Consumption Expenditures Percent Change Annualized Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	2.2 12723 0.5 2654 11.5 615 -3.4 30 -902	4.2 12841 3.8 2709 8.5 613 -1.6	3.1 12906 2.0 2744 5.3	3.0 12981 2.3 2782	2.9 13056 2.3	2.7 13129	2.6	2.2			
Pers. Consumption Expenditures Percent Change Annualized Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	12723 0.5 2654 11.5 615 -3.4 30 -902	12841 3.8 2709 8.5 613 -1.6	12906 2.0 2744 5.3	12981 2.3 2782	13056 2.3	13129					2.9
Percent Change Annualized Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	0.5 2654 11.5 615 -3.4 30 -902	3.8 2709 8.5 613 -1.6	2.0 2744 5.3	2.3 2782	2.3			13209	12559	12863	13163
Nonresidential Fixed Investment Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	2654 11.5 615 -3.4 30 -902	2709 8.5 613 -1.6	2744 5.3	2782		2.3	2.1	2.1	2.5	2.4	2.3
Percent Change Annualized Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	11.5 615 -3.4 30 - 902	8.5 613 -1.6	5.3		2818	2853	2885	2914	2538	2722	2867
Residential Investment Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	615 - 3.4 30 -902	613 -1.6		J. /	5.3	5.1	4.6	4.0	5.3	7.3	5.3
Percent Change Annualized Change in Private Inventories Net Exports Government Expenditures	-3.4 30 -902	-1.6		623	628	632	635	637	611	617	633
Change in Private Inventories Net Exports Government Expenditures	30 -902		3.6	3.0	3.3	2.5	1.8	1.6	3.3	1.0	2.5
Net Exports Government Expenditures	-902	-21	28	35	42	47	49	50	23	17	47
Government Expenditures		-844	-878	-881	-883	-886	-882	-882	-859	-876	-883
•		3171	3185	3200	3213	3226	3236	3236	3130	3177	3228
Percent Change Annualized	1.5	2.4	1.8	2.0	1.6	1.6	1.3	0.0	-0.1	1.5	1.6
ndustrial Prod. Index (2007=100)	105.9	107.5	108.5	109.2	109.7	110.1	110.5	110.8	103.7	107.8	110.3
Percent Change Annualized	2.5	6.0	4.0	2.4	2.0	1.6	1.3	1.0	1.6	3.9	2.3
Capacity Utilization (Percent)	77.2	78.0	78.4	79.0	79.3	79.5	79.7	79.8	76.1	78.2	79.6
Prices	11.2	10.0	10.4	1 3.0	18.3	18.5	13.1	1 3.0	70.1	10.2	19.0
CPI (1982-84=100)	249.4	250.5	251.6	252.9	254.2	255.5	256.8	258.0	245.1	251.1	256.1
Percent Change Annualized				252.9 2.1	204.2 2.1	200.0 2.0	230.8 2.0	236.0 2.0		231.1 2.4	
•	3.5	1.7	1.8	2.1 109.2	2.7 109.8				2.1 106.1	2.4 108.3	2.0 110.6
PCE Price Index (2012=100)	107.5	108.0	108.6			110.4	110.9	111.4			
Percent Change Annualized	2.5	1.9	2.2	2.2	2.1	2.1	2.0	2.0	1.8	2.1	2.1
GDP Price Index (2012=100)	109.3	110.2	110.8	111.4	112.0	112.6	113.1	113.6	107.9	110.4	112.8
Percent Change Annualized	2.0	3.0	2.5	2.2	2.0	2.0	1.9	2.0	1.9	2.3	2.2
PPI, Final Demand (Nov. 2009=100)	115.1	116.0	116.7	117.5	118.0	118.6	119.2	119.8	113.0	116.3	118.9
Percent Change Annualized	3.3	3.2	2.5	2.5	2.0	2.0	2.0	2.0	1.8	2.2	2.3
Crude Oil, WTI (\$/barrel)	62.9	68.0	68.0	71.0	73.0	75.0	75.0	75.0	50.8	67.5	74.5
_abor Markets											
Payroll Jobs (Average Monthly Diff., Ths.)	210.8	211.4	183.4	172.0	158.6	145.6	132.9	107.3	181.4	194.4	136.1
Jnemployment Rate (Percent)	4.1	3.9	3.9	3.8	3.8	3.7	3.7	3.7	4.3	3.9	3.7
Average Weekly Hours	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.5	34.4	34.5	34.5
Population (Millions)	327.5	328.1	328.7	329.3	329.8	330.4	331.0	331.6	326.0	328.4	330.7
Percent Change Annualized	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Personal Income											
Average Hourly Earnings (\$)	26.75	26.93	27.11	27.31	27.53	27.75	27.98	28.21	26.31	27.03	27.87
Percent Change Annualized	3.0	2.7	2.8	2.9	3.2	3.2	3.4	3.3	2.5	2.7	3.1
Real Disp. Income (2012 Billions \$)	14220	14307	14400	14495	14592	14690	14793	14883	13949	14355	14740
Percent Change Annualized	4.4	2.5	2.6	2.6	2.7	2.7	2.9	2.4	2.6	2.9	2.7
Personal Saving Rate (Percent)	7.2	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.9	6.8
Housing											
Housing Starts (Ths., Ann. Rate)	1317	1254	1216	1217	1217	1219	1220	1219	1208	1251	1219
Exst. SF Home Sales (Ths., Ann Rate)	4903	4797	4752	4753	4756	4749	4743	4742	4910	4801	4747
New SF Home Sales (Ths., Ann Rate)	656	642	634	634	634	633	633	631	616	642	633
Case/Shiller HPI (Jan. 2000=100)	199.8	202.1	204.1	206.0	208.0	210.0	212.2	214.4	191.6	203.0	211.1
Year/Year Percent Change	6.4	6.4	6.1	5.0	4.1	3.9	4.0	4.1	5.8	6.0	4.0
Consumer										<u> </u>	
Household Economic Stress Index	-0.1	0.1	0.4	1.1	1.6	1.8	1.8	1.7	0.6	0.4	1.7
Auto Sales (Millions)	17.2	17.1	16.7	16.7	16.6	16.5	16.3	16.2	17.2	16.9	16.4
nterest Rates (Percent)	11.2	.,,,	.0.7	.0.7	.0.0	.0.0	.0.0	10.2	11.2	.0.0	
Federal Funds Rate (Effective)	1 15	1.74	1 07	2.19	2 45	2.69	2.94	3.13	1.00	1 9/	2 90
	1.45		1.97		2.45 5.55				1.00	1.84	2.80
Prime Rate	4.53	4.80	5.07	5.29	5.55	5.79	6.04	6.23	4.10	4.92	5.90
I-Month LIBOR	1.65	1.97	2.09	2.24	2.50	2.74	2.99	3.19	1.11	1.99	2.86
3-Month LIBOR	1.93	2.34	2.33	2.47	2.66	2.87	3.19	3.39	1.26	2.27	3.03
I-Yr. Treasury Rate	1.94	2.25	2.46	2.58	2.74	2.93	3.23	3.43	1.20	2.31	3.08
5-Yr. Treasury Rate	2.54	2.77	2.78	2.85	3.04	3.25	3.56	3.70	1.91	2.73	3.39
0-Yr. Treasury Rate	2.76	2.92	2.91	2.94	3.11	3.29	3.60	3.75	2.33	2.88	3.44
30-Yr. Fixed Rate Mortgage a = actual f = forecast	4.27	4.54	4.54	4.56	4.73	4.91	5.22	5.37	3.99	4.48 aber 10, 2	5.06

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